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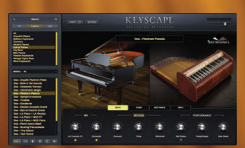

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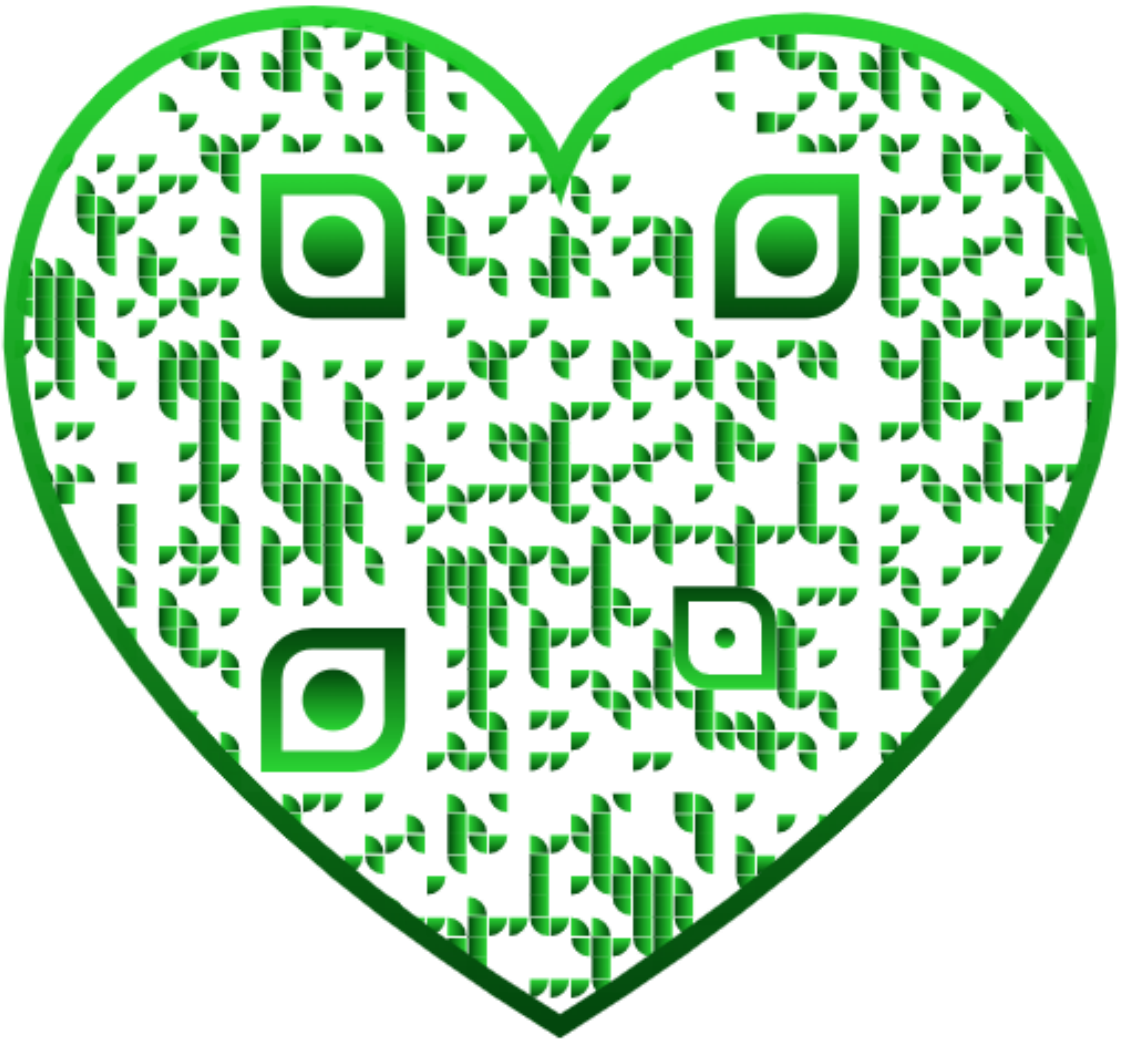

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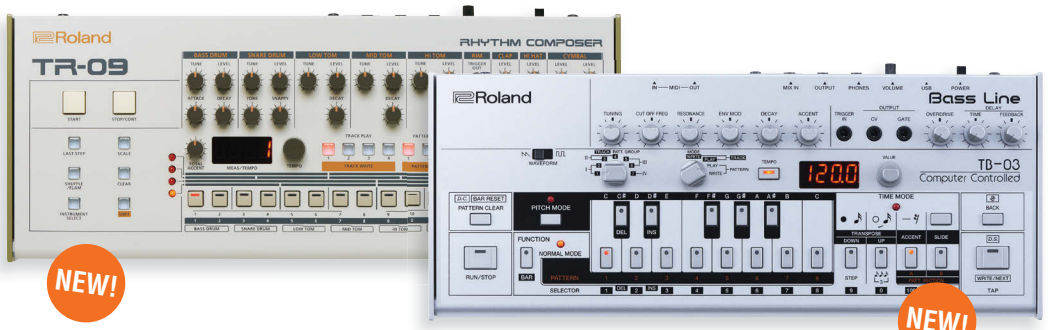

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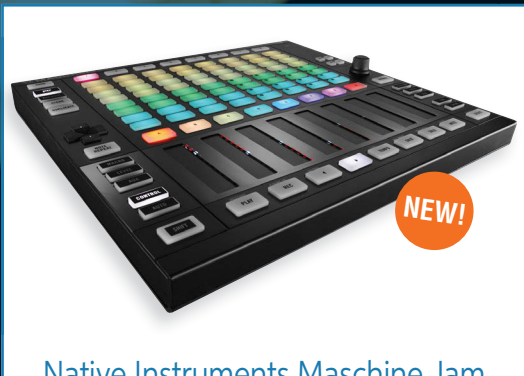

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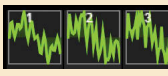

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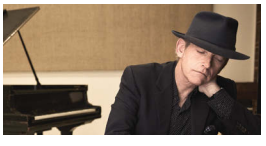

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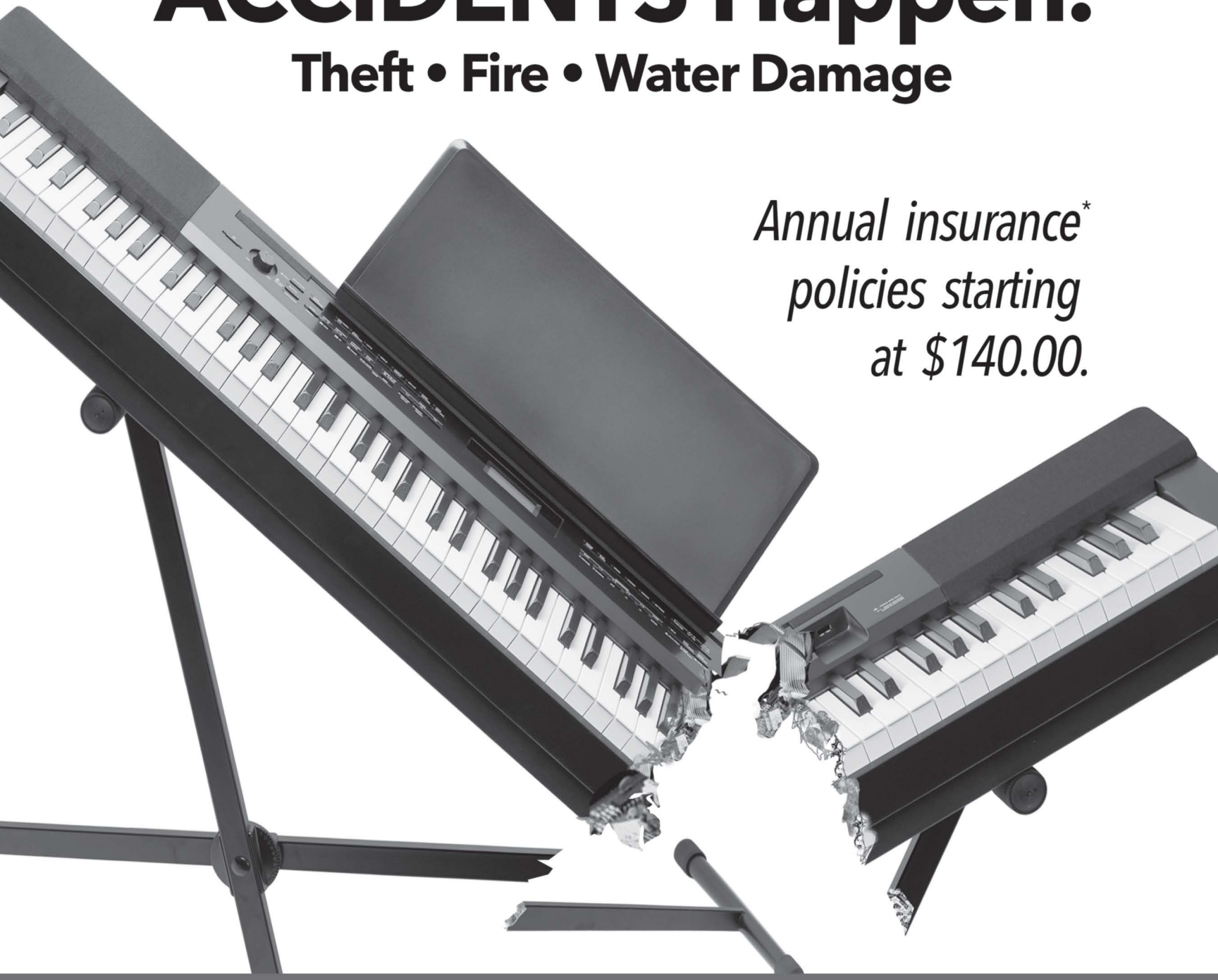

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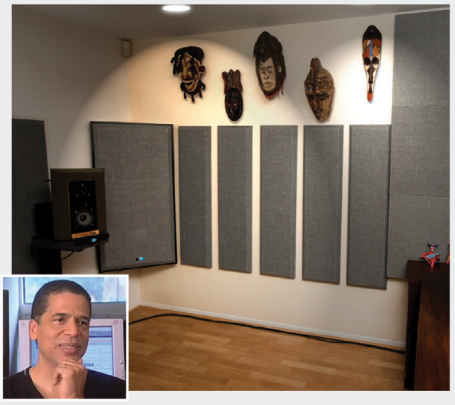

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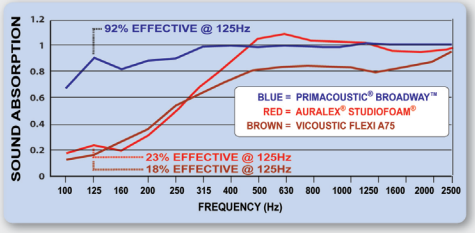

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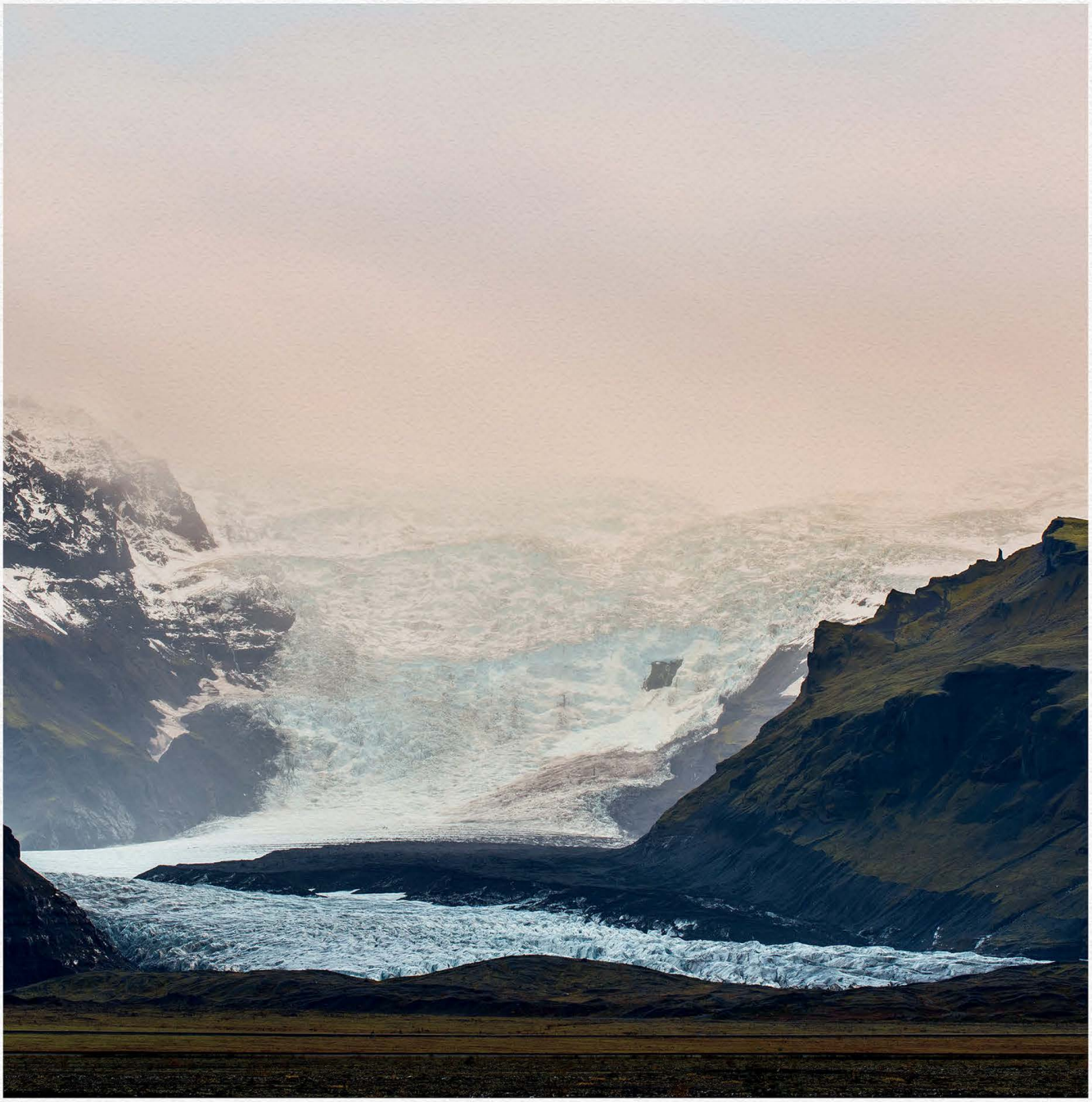

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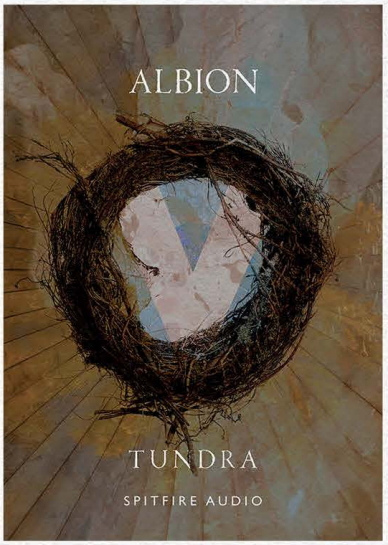
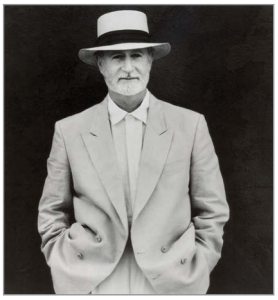


TALK

Editor's Note



Nearly every month in 2016, we said goodbye to someone from the creative community who changed the way we think about music in a major way. Sadly, this month was no different. Within the span of a week, as we prepared this issue for press, the world lost three more influential artists: Leonard Cohen (November 7), Leon Russell (November 13), and Mose Allison (November 15, just a few days after he turned 89).

Thinking about them together, it's impossible not to notice that, in addition to having deep catalogs of music, each of these men had an unmistakable *voice*. When any of them opened his mouth to sing, his vocal instrument was as immediately recognizable as the trumpet of Miles Davis or the sax of Ornette Coleman.

In fact, I would argue that it was largely *because* of their unique singing styles that each of them gained enough attention for his own work that important doors opened, which ultimately helped all of them create such influential bodies of work.

In addition to songwriting, Cohen was a poet and novelist, leading to an array of awards for his outstanding level of artistry; from the Prince of Asturias Award in literature from Spain, to the Glenn Gould Prize and Companion of the Order of Canada, as well as a hat trick of HOF inductions: the Canadian Songwriters Hall of Fame, the Canadian Music Hall of Fame, and the Rock and Roll Hall of Fame. From his long list of songs, "Hallelujah" became the tribute heard throughout the world (made even more poignant in a post-election rendition sung by actress Kate McKinnon on *Saturday Night Live*).

Mose Allison's sparse, blues-inflected vocals set against his transparent and jazzy playing gave his songs a fragility that was inviting and hard to resist. Yet it was The Who's live version of "Young Man Blues" that first introduced me to Allison's songwriting. Researching the source of the song, as a young man myself, I couldn't believe how gentle and unassuming Allison's performance was on the original recording compared to the energetic rendition I heard on *Live at Leeds*. In the days before Web searches and file sharing, when music fans spent hours rereading an album's liner notes in order to follow the trajectory of songs and musicians, Allison was an important gateway to a deeper understanding of pop music's history.

In his 2011 interview with *Keyboard* for the release of *The Way of the World*, following a 12-year sabbatical from recording, Jon Regen asked Allison if it was gratifying to be known as a true original. "Well, that was part of my original plan," the songwriter replied. "That's what I always thought that every musician should do."

Leon Russell was another true original. Yet unlike the other two men, his influence reached across the entire music industry; from his days as a session player in the Wrecking Crew through his work as a songwriter, music director, producer, and collaborator for some of the biggest names in show business—Frank Sinatra, Bob Dylan, the Rolling Stones, Joe Cocker, Elton John, Eric Clapton, George Harrison, Ringo Starr…just for starters! Russell even covered the Mose Allison song, "I'm Smashed" on his album *Stop All That Jazz*.

A few months ago, I was having lunch with Roger Linn, and our conversation turned to Leon Russell. Beginning at age 19, Roger had worked as an engineer and guitarist with Leon, and he told me a number of stories about their shared interest in using music technology to enhance the creative process. "In fact, it was Leon who stirred my interest in the idea of a programmable drum machine, which resulted in the creation of the LM-1 Drum Computer," notes Linn in a tribute to Russell on his website. "And it was Leon who taught me the value of degrees of swing timing that later resulted in my creation of the LM-1's swing feature.

"And though my guitar skills were not the equal of the great guitarists he normally worked with, he kindly gave me the privilege of playing guitar with him on his tours. In retrospect, I look back at those years as my attendance at the University of Leon Russell, an education I will always value."

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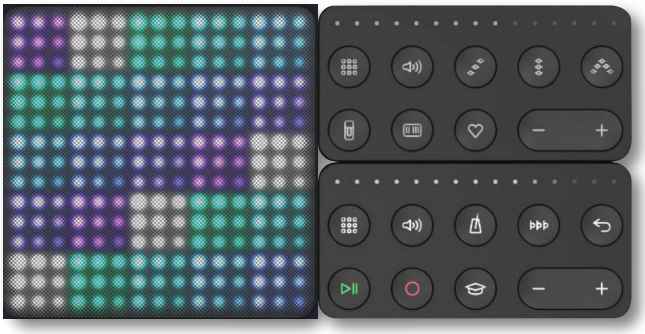

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Troye Kinnett

NAVIGATING A "SHIP'S PIANO" ON TOUR WITH JOHN MELLENCAMP

BY GINO ROBAIR

"WE WERE PREPARING FOR A THEATER TOUR," TROYE KINNETT EXPLAINED over the phone, "and John said 'I want you to play piano—you know, that Dylan approach.' I had been listening to 'Just Like Tom Thumb's Blues,' and from then on, the instrument became known as the Tom Thumb piano."

John, in this case, is singer/songwriter John Mellencamp, with whom Kinnett plays keys. "We've had this 68-key Winter piano on the Mellencamp tour for six years now, and it definitely has a vibe!"

Kinnett originally contacted me in response to November's column, which featured the "ship's piano" Wayne Horvitz is using in his 21 Pianos project, and included a photo of the 5 1/2-octave upright he uses both on tour and in the studio: It's a fine example of the type of piano built in the late 19th and early 20th centuries to fulfill the need for a portable instrument that could be taken on long journeys.

"We went on Craigslist to locate one, and I found it in Grand Rapids," he explained. "It had been sitting in a piano teacher's house for years. One of our crew was up there, and I had him go over there and play it for me over the phone: It had the sound! But we decided not to put tacks on it, once we heard how mashed down the hammers were. It's cool cause it's old and worn enough."

Although you might not expect a piano of this size and vintage to withstand the punishment of the road, Kinnett says this instrument is up to the challenge. "It gets tuned at every show, so it's very stable. The tuners make wisecracks about it when they first see it. But after they tune it, they say it's a lot cooler then they thought."

Yet, even when properly set up, it doesn't lose its unique character. "We don't use it on everything: I can't play thick chord voicings on it, and it sounds wrong when doing jazz standards," Kinnett notes. "Most of the gig is B3 and accordion. But for the most recent tour, the piano is used on 'The Full Catastrophe' from *Mr. Happy Go Lucky*: The entire band is off the stage, and it's just John and me. The song's in D minor and the piano gives it a moody vibe that reviewers have likened to a Tom Waits approach.

"I also play it on the intro to 'Pink Houses,' and on a new Carlene Carter/John Mellencamp tune called 'Indigo Sunset' that is due to come out sometime next year. And I brought it on the tour for Stephen King's musical *Ghost Brothers of Darkland County*, which John scored."

With the front panel removed, and the hammers and strings exposed, getting a consistent sound across the entire instrument can be tricky. "The piano has a Helpinstill pickup on it, which provides the majority of the sound. Then we add a mic above to capture some top-end, and another below for support."

Once the Winter piano became an established part of his rig, Kinnett needed to find something for those times when he and the piano were in different locations. "Last year, I bought a backup that's even smaller—a 4 1/2-octave Kohler & Campbell. That way, I have piano for session dates when the other one is on the road."

The Winter 5 1/2-octave upright piano.

Troye Kinnett's 4 1/2-octave Kohler & Campbell.

If you want to hear Kinnett and the Winter keyboard in action, he'll be back on the road with Mellencamp in May and June, 2017. In the meantime, visit troyekinnett.com to learn more about this multitalented musician and composer. ♫

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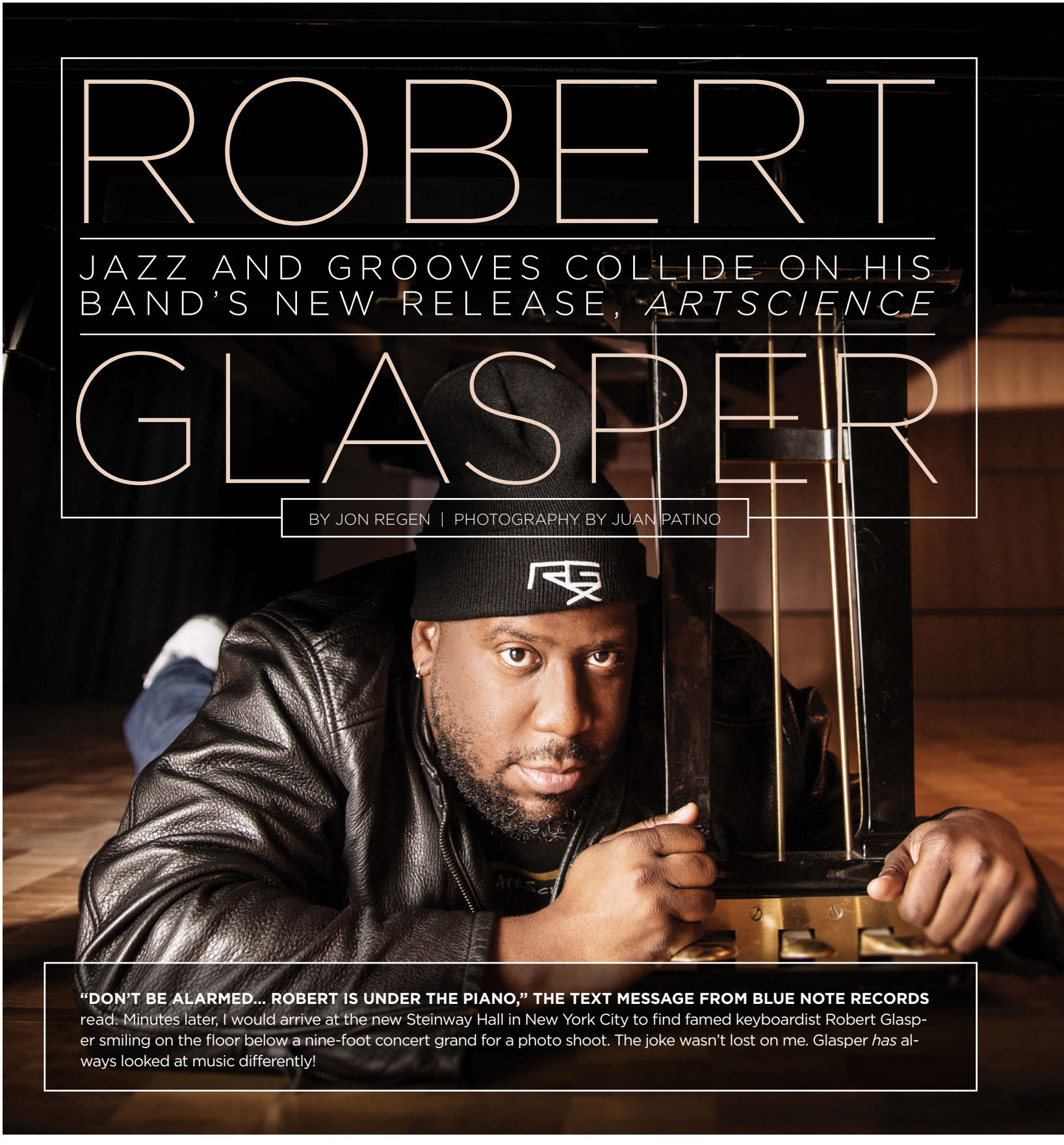

"DON'T BE ALARMED... ROBERT IS UNDER THE PIANO," THE TEXT MESSAGE FROM BLUE NOTE RECORDS read. Minutes later, I would arrive at the new Steinway Hall in New York City to find famed keyboardist Robert Glasper smiling on the floor below a nine-foot concert grand for a photo shoot. The joke wasn't lost on me. Glasper *has* always looked at music differently!

Since bursting onto the jazz scene as a leader back in the early 2000s, Glasper has carved out an ever-changing musical career. Whether he's playing acoustic piano-jazz with his Robert Glasper Trio or digging deep into electrified hip-hop and R&B, as he did on the Robert Glasper Experiment's *Black Radio* (2012) and *Black Radio 2* (2013), Glasper is an ever-fearless musician who challenges convention at every turn. Now with the release of *ArtScience*, the new album by the Experiment, he continues his recorded investigation into the art of collective groove.

Glasper eventually made his way out from under the piano to talk with me about his continued quest for musical mastery.

I read a quote recently by the saxophonist Kamasi Washington where he said, "We've now got a whole generation of jazz musicians who have been brought up with hip-hop. We've grown up alongside rappers and DJs… and we are as fluent in J Dilla and Dr. Dre as we are in Mingus and Coltrane." I immediately thought of how you were one of the first jazz artists to bend bebop and hip-hop into a sound of your own. Can you talk about how you came to jazz, how you came to hip-hop, and how you came to combine them?

I came to jazz because my mother was a jazz singer, amongst other genres. She sang jazz, R&B, funk, gospel, Broadway, folk, and pop. Literally every day of the week, she had a different kind of gig. Her favorite singer was Ella Fitzgerald, and she always played her and a lot of other jazz in our house in Houston, Texas. I started loving the music of Oscar Peterson because of the recordings my mother played. She would also rehearse her band in our garage, and I would watch her piano player Alan Moseley and ask him questions afterwards. He would sit down and show me all of his "hip" voicings.

How old were you at that time?

I was probably 12 years old.

Did you already have a good foundation in music at that point? Were you taking piano lessons?

No. When I was 11, I was literally playing with one finger and learning songs off of the radio! But I learn fast, so within two years, I was playing chords. I learned on my own, but my mom was also showing me stuff. She wasn't a "piano player's piano player," but she could accompany herself singing. Then Alan hipped me to Chick Corea, so I got this one [cassette] tape of his called *Akoustic Band Live*. That was my first real jazz tape.

And I wore it *out*!

Fast forward to 1994 when I was a freshman in high school. I would drop my mom off at her gig, and she would let me keep the car, but I would have to go pick her up at around two o'clock in the morning. And she would always make me play a "standard" with her while she sang. Things like, "There Will Never Be Another You," "Perdido," "Body and Soul," and a few other ones she liked to play duo. The bartender at that place told my mother he knew a professor at the High School for the Performing Arts in Houston, and that I should go audition there. So they hooked it up, and I auditioned and got in. That's where the jazz thing really took off for me. I studied jazz theory, jazz harmony, jazz combo, and big band. That's where [jazz pianist] Jason Moran and a bunch of other great musicians went as well.

Besides Chick Corea, what other jazz pianists were you listening to at that time?

I was all about Chick, Keith Jarrett, and Oscar Peterson. Then a little later in high school, I started checking out McCoy Tyner. Those were pretty much my guys—those four.

Fast forward to when I got a full scholarship to come to New York to study at the New School in the fall of 1997. This was the very beginning of the "Neo Soul" movement, where a lot of guys from New York and Philadelphia were combining and coming together and doing jam sessions in New York with The Roots, Common, Erykah Badu, and other rising artists. This whole genre was happening. I met my friend the singer Bilal at the New School, and on the very first day, he told me, "Come to these jam session with me!" And it was there he introduced me to all these people he knew from Philadelphia, like [Roots drummer] Questlove. I was his "jazz friend," and that's what everyone called me. [Laughs.] So I would sit in with the Roots at these sessions. That was pretty much my first time playing hip-hop stuff. I had never done that before.

Because you were concentrating primarily on acoustic jazz?

Yeah, exactly. I also grew-up playing in church, so I was like the "gospel/jazz guy." When I was 11 years old, my mother would let me play the old broken organ in our church while she was playing piano as musical director. And in three years, I was playing the service with her. All from playing by ear.

Pretty soon after getting to New York and playing those jam sessions, Questlove started calling me to play shows with the Roots. At the same time, I was still in college and my friend Bilal had gotten signed to a record deal during our sophomore year at school. I was his musical director, so I was going on tours with him. I was also playing with [jazz trumpeter] Roy Hargrove and [jazz bassist] Christian McBride.

Was this all on piano?

Yes, except with Roy Hargrove I was playing Rhodes, because it was for his RH Factor tour.

Had you had a lot of experience playing Rhodes up until that point?

I might have played a Rhodes once or twice before then, but I'll tell you how unfamiliar I was with it. My band director tried to give me one in high school, and I said "No." [Laughs.] Somebody had called the school saying, "Hey, we have this old Rhodes in our attic and we want to give it to a student." So my band director called me and said, "Robert, do you want a Rhodes?" And I said, "What is that?" He replied, "It's like a keyboard." And I said, "Mmmm, I'm good." I beat myself up to this day for that. It was a suitcase [model] too!

In college I did get a stage model Rhodes. I got it really cheap and I used to carry it around for gigs. I had a dolly and I could maneuver onto the subway. But I still have back problems to this day because of it! Back then I lived in a three-story brownstone, and my landlord wouldn't really allow me to leave it downstairs. I'd say, "Can I *please* just leave it downstairs for a few days," and he'd say, "It's taking up too much room!" So I'd have to take it up three flights of stairs.

While you were playing those early hip-hop gigs, were you thinking about combining it with jazz?

Not yet. I used to play hip hop-esque stuff with my band in high school, because the drummer and bass player also played in church with me. We did little hip-hop things, but we didn't really know what we were doing. The funny thing is that bass player Mark Kelley is now the bass player in the Roots. I realized how to *really* play hip-hop when I got with Questlove and the Roots—especially the [J] Dilla school of hip-hop, because it's a whole different vibe. Once I got with those guys, I was learning all of that "behind the beat" stuff onstage at jam sessions, playing with the Roots while Mos Def, Common, and Talib Kweli were coming up to rhyme. I was also watching people like James Poyser and Jun[ius Bervine] play. Those guys were how I learned how to play hip-hop and soul. I couldn't wait to watch them sound-check with Common and D'Angelo.

I was also playing a lot of hip-hop with Bilal, and I was his musical director from 1999 to 2007. Then I became Mos Def's music director. I also used to do these trio shows at a spot called the Up Over Jazz Café in Brooklyn, New York, with just me and my trio every Thursday. I also had a "hip-hop meets jazz" night every Wednesday with my trio. It was a jam session where I would literally hold a microphone up for singers and rappers to sit-in while my trio and I played grooves. The rule was you weren't allowed to call songs: You had to just go with the vibe. People like Q-Tip, Common, and Ali Shaheed Muhammad from A Tribe Called Quest would come by and vibe with us. So it was a mixture of me playing with the Roots, Mos Def, Bilal, plus all of the jazz gigs. I was doing both things at a high level.

I remember in 2004, you made a record called *Mood* for the Spanish label Fresh Sound/New Talent. Even though it was considered a "straight-ahead" jazz album, you were already hinting at, in the words of Ornette Coleman, "the shape of jazz to come." It had twisting meters, adventurous harmonies and backbeat-infused grooves. You seemed to have a sense of your sound early on.

That was because I had become a big fan of A Tribe Called Quest during my junior year in high school. In 1999, I met Dilla and got a chance to go to his house and jam with him while he played the [Akai] MPC. So I became a big fan of his band Slum Village. I was a big fan of hip-hop albums because they always had these little interludes. There would be 30 seconds of a beat and you'd be like, "What is that?" I loved that stuff, so I brought it to the jazz format. Jazz musicians weren't doing that. I always felt that the average jazz album was kind of boring in the way it was made. It was like, "Here are 12 songs." They weren't trying to be funny or

make it an *experience*. I remember my mom playing me Earth, Wind & Fire albums and they had dope interludes. I wanted to bring that into the jazz world. I never thought, "This is going to be my sound," or "What can make me be different?"

I have musical ADD, and I get bored. My thing is, [jazz standard] "Alone Together" has been played a million times. On my album *Mood*, we played it but it wasn't planned. We just went into it. But normally when I think of playing a standard or another song that's been done a lot, I'm like, "Do we need another version that's not interesting?" I feel like you need to either do something totally different to it, or leave it alone and don't do it at all. You have to investigate a way to make it *yours*.

You were looking for something *beyond* what other people were doing.

Exactly. I was just hungry for something different because I felt that jazz could be more colorful. There could be more stuff in there. So I was trying to figure out ways to make my records more exciting.

I was at a party with Herbie Hancock years ago and he was talking about the exact same thing. He said to me, "Why do we have to play this music the exact same way we've been doing it for 40 years?"

Herbie always thought like that. And he still does to this day. He made "Rockit" when he was 40! I'm co-producing his new album along with Terrace Martin. It's incredible, and he's so open and about change. "We did this already. Let's do something different." That's the mind frame that most innovators have. People that aren't innovators are okay with just being complacent and reflecting the scene. There are a lot of great players in the world, but there are very few visionaries who have a concept that can actually *change* the sound and path of music.

Speaking of Herbie, many of your albums have nods both stylistically and cover-wise to him. Was he one of the people that influenced you to start digging into the Rhodes?

Yes, because when I went to J Dilla's house in 1999, he hipped me to an album of Herbie's called *Sunlight*. I'll never forget that. J Dilla sampled a lot of stuff from that album, and when he played those things for me I was like, "Oh, God!" It just sounds so good. And that really made me want to play Rhodes. Herbie has the best Rhodes sound of anybody.

Often times, pianists cite either Chick Corea *or* Herbie Hancock as their influences. But I can hear both of them in your playing.

Right. Well, the funny thing is, when I was growing up playing in church, if the musicians knew any jazz, it was [Chick Corea's composition] "Spain." So Chick was a big influence in church. And I got into Herbie in college. I'm glad I got into Herbie later, because I feel like if I had gotten into him earlier I would be more of a clone. Right now, you can tell there's an influence, but I don't necessarily sound like him. Last year, my band opened up for Chick and Herbie in Korea. And when Herbie came off the stage, he said to me, "Man, I love what you do on Kendrick Lamar's album *To Pimp a Butterfly*." And he was going into all these details about the album. He's almost 80! That's so awesome.

I read a quote by you recently in a UK newspaper where you said, "There's a tendency for the old guard to sneer at hip-hop… but jazz can learn so much from hip-hop. You have to use repetition, you have to play sounds that cut through. Sometimes that can be even more difficult than the most complicated improvisation."

I genuinely love space. And not many jazz musicians do. They love to *fill* space. But I love to let there be space, because space speaks volumes. When I play hip-hop, for instance, I'm literally trying to mimic the sample. And that's hard to do. Having the discipline to repeat something the same exact way on the same exact beat—even if

it's *off*—is really hard to do. And doing it evokes a certain feeling, a mantra, a prayer; the repetition is very African. I love that and I feed off leaving space where it needs to be. I also think people respect the space I leave because they know I can fill it up; because I have the technique to do that, too.

I used to do this thing with the drummer Chris Dave when he lived with me, where the Rhodes and the drums were set up in the middle of the living room. We would sit down and play one groove for an hour without stopping or improvising over it. One time we did it for two hours. I remember looking at my watch and saying, "Dude, we just played that groove for a whole movie!" [Laughs.] That's how cats practice Latin music, too. I remember [late Sting pianist] Kenny Kirkland talking about that when he was learning montunos, saying that he would record himself playing them for hours and then turn the tape over, just to learn that groove. I feel like that's a lost art in a way.

Let's talk about *ArtScience*, the new album with the Robert Glasper Experiment. If you were to distill what you and your band are all about in just a few sentences, how would you describe it?

I've never said this before in my life, but it's like the Golden State Warriors. Or the [San Antonio] Spurs. Meaning, a *team* that is so good as a team. With the Experiment, we're a great team because everybody is equally as good as each other. Everybody in that band is unselfish and versatile.

The album opener "This Is Not Fear" is a pretty accurate snapshot of what listeners are in for. A searing jazz quartet suddenly morphs into a backbeat-infused, synth-laden, spoken-word, hip-hop, Rhodes-washed interlude featuring band introductions and applause. It's like we're getting an entire live concert in three minutes!

I've never heard a record that had straight-ahead jazz, hip-hop, Trap and disco music played to that level, by one band. When I do hear people try to do that, you can hear the weak links. You can hear what they are and aren't good at. My idea was that I wanted to "bookmark" the album with jazz, because I feel that all of the genres of music we're playing were birthed from jazz. Now we're getting love from hip-hop cats who want to rhyme over "This Is Not Fear," and Jimmy Jam recently Tweeted me that he loved our version of his song "Human." So I feel like we successfully covered a lot of genres.

Your song "Thinkin Bout You" reminded me of some cuts off of Herbie Hancock's album *Mr. Hands*. There are lots of retro analog-synth stabs on this one. What kind of keyboards did you use on that track?

I used a Roland Juno and Minimoog. I wanted to do a song with a Trap beat to it, because Trap is really in right now. I grew up with Trap because I'm from the South. It was always around when I was younger, but it had never crossed over into the rest of the United States until southern rap got popular, with people like Lil Wayne. It's right at home for me. I was listening to Trap before I was listening to Chick Corea!

You did a lot of co-writing within the group this time around. Was the idea to bring everyone into the creative process with equal weight?

Exactly. I produced all of my other albums, but here I wanted to give everyone a chance to do it and also make them write. I'm always the advocate for people writing in the band. This record sounds like something I didn't produce on my own. And I'm happy about that. It sounds like all of us.

Herbie Hancock's tune "Tell Me a Bedtime Story" gets your signature treatment here, with a shifting drum track, vocoder-ized vocals, reharmonizations and a swirling, processed Rhodes. What do you look for in a Rhodes piano?

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I don't like the "bell" sounding Rhodes. I like the buttery, smooth ones. At home, I still have the stage model I used to lug around New York City to gigs. I also have a Vintage Vibe electric piano that I love. It's portable like a Wurlitzer.

What is it about Steinway pianos that made you want to join their artist roster?

I love the feel of them, and the fact that they are handmade. And I love the integrity of them—that it takes a year to make them. They record really well, too.

You recently composed the music to *Miles Ahead*, the acclaimed film about Miles Davis. Is that something you want to do more of?

Now, yes. Because before that, people would always tell me, "Your music lends itself to film scoring." And I was like, "Okay." But then when Don Cheadle hit me out of the blue to score this movie, it was eye-opening. I was scared and happy at the same time, because this is the music of Miles Davis. I knew every musician was going to be watching and listening and critiquing this movie.

How did you approach getting inside of Miles' music?

The thing about that movie was there were different periods that I had to conquer. There are a lot of flashbacks in it, so there were times I had to capture different bands, like the 1958 band with Cannonball [Adderly] and Coltrane. I know so many musicians that I knew who to get—[people] who can really sound like the original guys. I used different bands for different eras in the movie. And sometimes I had to write songs that were in the particular style of Miles' music. It brought me back to when I was first checking out his records. I still have those records: I still had to go take them out.

Did you have everything written out?

Yeah. I mean, some stuff wasn't that involved, like if I needed 15 seconds of music for a scene where Miles was walking out of a club. Then I'd have to write a Bossa [Nova] that sounded like something from 1962. Now that I got my feet wet, I definitely want to do more [scoring work]. In fact, I just did some stuff for the soundtrack to *Barbershop 3*. Stanley Clarke scored it, but I was the featured artist on it, so I played and got to interpret everything.

What's next on the musical horizon for you?

I'm a few years ahead already, but I don't know which one of the ideas I have is coming next. I always wait to see what the musical climate needs at the time. Before I put a record out, I try to say, "What do I think would do well in this climate?" Instead of just saying, "This is how I feel, so I'm gonna put a record out. Here are another 12 songs with no concept." [Laughs.]

What would you tell a young musician who wants to have a career like the one you continue to forge for yourself?

I would say that I think the reason that my band is successful is that we took the training that we had very seriously. A lot of cats say they want to play their "Glasper" stuff, but they can't really sit down and play a standard. They don't have the amount of chops, harmony and understanding, so they skip to the hip-hop part. So I feel like people should be as authentic as they can in each genre. That's what keeps me working. If I didn't have my own career, I'd be playing three or four different genres of music on tour with other people. You have to be able to do that now to make a living. It's about studying your craft and your instrument, and taking it seriously. ♫

The Robert Glasper Experiment, featuring Mos Def, plays "Stakes Is High"

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CHRISTINE ALICINO

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CHAMPIONING THE WORKS OF LIVING COMPOSERS

BY GINO ROBAIR

WHENEVER YOU LOOK CLOSELY AT THE MOST FERTILE PERIODS IN THE HISTORY of the arts—such as pre-WWI Paris or post-WWII New York City—you'll always find a person or two whose presence was an important catalyst. In the world of contemporary classical music, Sarah Cahill is one such person.

Through her inspired interpretation of works across the 20th *and* 21st centuries, Cahill has been instrumental in bringing to life the music of many of our greatest living composers. Her influence can be particularly felt in the increased recognition of the West Coast tradition of experimental music, through her focus on composers such as Henry Cowell, Terry Riley, John Adams, and Lou Harrison, all of whom utilized the rich, culturally diverse resources that California's unique position on the Pacific Rim provides.

Cahill's first notable premiere was the piece *China Gates*, written for her by John Adams when she was still in her teens. Since then, she has premiered works by Harrison, Riley, Leo Ornstein, Julia Wolfe, and George Lewis, among many others. Composers who have dedicated pieces to her include Frederic Rzewski, Pauline Oliveros, and Kyle Gann.

In addition to actively commissioning new compositions for piano, Cahill keeps a busy schedule of performing and recording. When I spoke with her in November, Cahill was in the final stage of preparing a 3-CD set of recordings for the Irritable Hedgehog label that includes all of Terry Riley's piano music—from his early 12-tone pieces to his most recent works.

What are you planning to include in this new release?

It has a huge number of his solo piano pieces, including works I commissioned from him, such as "Be Kind To One Another" and the 4-hand music, which I recorded with Regina Schaffer. It also has pieces I commissioned from other composers in celebration of Terry Riley's 80th birthday last year, such as Pauline Oliveros, Evan Ziporyn, Danny Clay, and Gyan Riley.

What goes into commissioning a work?

I've been doing them with thematic programs in mind. So I talk to the composers and ask them to write a piece around a particular idea—such as the Henry Cowell centenary or Terry Riley's 80th birthday. Sometimes the composer writes something that doesn't have that much to do with the theme, but that's interesting to me because I can play the piece in other kinds of situations.

When I do a commissioning project, the goal is to add interesting pieces to the piano literature, but pieces that aren't limited to just that one project. For instance, in San Diego last weekend I played a piece by Maggie Payne that I commissioned in 2001, a wonderful piece called "Holding Pattern," which uses Ebows on the piano strings. She wrote that for Ruth Crawford's 100th birthday, yet it goes way beyond that one occasion. So that's nice.

The wonderful thing about commissioning is that you never know what you'll get. It was very exciting to open my computer and find a PDF from Terry Riley—the score to "Be Kind To One Another." I looked at it and thought "Wow, I get to play this. It's a really great piece and it's going to have a long, long life and be played by other pianists." I couldn't wait to get my hands on it, literally, at the keyboard.

Another aspect is getting to know the work. It's wonderful having a piece for a decade or more; going back to Maggie Payne's piece after 15 years and getting a different perspective on it. Or living with a Frederic Rzewski piece for a long enough time that you can really pay attention to all the little articulations and markings in the score. Revisit it, keep exploring it, and go deeper with it. That's the really exciting thing for me; to live with a piece year after year and have a real profound relationship to it.

One thing I feel strongly about when commissioning is that composers should be paid for their work. It bothers me when I hear someone ask a composer to write a new piece for nothing because they don't have the money to pay for it, or offer a fee that is low. I think it's really disrespectful. One has to find the money, whether it's through grant programs like New Music USA or the various foundations that give money for commissioning new works. I think it's very important.

How do you determine the fee for a commission?

For the project *A Sweeter Music*, I gave everyone the same fee. Sometimes it's better for the composer to set his or her own price. But I find that younger composers will have a hard time asking for money and having a sense of their own value. They're not used to putting a real price on their work. So with some of these composers, I will insist on giving them more money than they ask for. I had to haggle with one composer about this, but I was haggling about giving him *more* money! [Laughs.]

Where do you begin unraveling an entirely new piece?

It is so important to consider who the composer is and the stylistic approach of each piece. For example, the Meredith Monk piece I commissioned for the Henry Cowell 100th birthday, "Steppe Music," was a hard piece for me to understand. But thinking of Meredith Monk's background in vocal music and how she works things out vocally, I had to ask myself How does that translate to the piano? Then it's a lot easier to find a way into it.

Did you contact her directly and ask her about the piece?

I did. We talked on the phone and in person about ways to approach it. That's a wonderful thing about working with living composers.

When I play a piece by Henry Cowell or Marc Blitzstein and have a problem, they're no longer living so I have to figure out a solution on my own. I did get to talk with Leo Ornstein when he was 107 at his nursing home in Green Bay, Wisconsin, and ask him about a piece that he wrote in 1913. But if I look at a Marc Blitzstein manuscript and there's a question, it's hard not to be able to ask him about it.

Or take Schubert's *Drei Klavierstücke*, where he crossed out two pages. Then the question that pianists ask is "Do you play those two pages because Schubert wrote them, or do you honor his intentions and *not* play them?" If this situation happened with a composer who was alive today, I can call him or her up and ask "Do you want those played or not? "

So it's very important to know where the composer's coming from. Sometimes, you have to understand that the notation can't possibly cover all of what the composer wants to express in the piece.

To do that, you need to get into their head, somehow.

That's one of the great things about working with composer/pianists who are living. Seeing Terry Riley or Frederic Rzewski in concert provides such a great lesson in how to interpret and play their music.

So it is a combination of working with the composer as well as having a sense of their body of work; for example, Rzewski's great masterpieces *The People United Will Never Be Defeated* and *De Profundis*. And watching him at the piano, you see all the different levels of attack, touch and articulation. How he plays with that kind of dry objectivity, and how attentive he is to every single detail.

And understanding his background—of premiering Stockhausen's *Klavierstücke X* and all the work he did by the great avant-garde European composers. All of that informs the music he's writing now. Rzewski has many different kinds of staccato in his music: There is a staccato with an accent over it, which is different than a plain staccato or a staccato with a tenuto marking over it. They all need to be completely different when you play his pieces. You have to pay attention to all of those markings.

Have there been times when you felt the need to interpret a score differently than the composer intended?

Yes, and it's always wonderful to have that discussion with a composer and then have him or her say "Yes, you have a point there." Sometimes it leads to changes in the scores.

With such an busy schedule learning new works, how do you keep yourself in shape, technically?

The book I really love is *Mastering the Chopin Etudes and Other Essays* by Abby Whiteside. It's incredibly valuable for learning to stay relaxed at the piano and avoid injuries, to feel the power in your lower back and understanding the skeletal and muscular system, and how it all works together when you play.

These are especially important considerations when playing a new score by a composer who isn't a pianist. If they write something that twists your hand in different ways, and you're trying to work it out, having relaxed arms and hands will help you avoid injury. You can really hurt yourself if you're not paying attention.

So I use the Whiteside book to remind myself to stay relaxed at the keyboard and always be aware of my body—and to move my body around. I play a lot of minimalist music, and sometimes it's an endurance test. I have to keep my body moving, and choreograph it so that I can figure out the best way to get through the piece.

It's all about giving a great performance while staying relaxed and comfortable.

Learn more at sarahcahill.com. ♫

CHRIS BROWN

>> EXPLORING THE LIMITS OF JUST INTONATION IN *SIX PRIMES*

BY GINO ROBAIR

"MY INTEREST IN NEW MUSICAL RESOURCES HAS CHANGED FROM BEING based on timbre, rhythm and interactive electronics to pitch relations. I came to that with the skills I acquired tuning pianos in equal temperament for many years, and wanting to push past that."

As a composer, pianist and computer programmer, Chris Brown integrates a mixture of modern musical resources, such as interactive electronics, real-time digital-signal processing, musical-instrument design and improvisation in his works. In addition to being a member of the pioneering interactive-computer-network ensemble, The Hub, Brown is a professor of music at Mills College and co-director of its Center for Contemporary Music for over two decades.

Consequently, when he began composing his concert-length, solo piano work, *Six Primes*, he originally imagined it with an electronic element. "I have an interactive sequencer that I designed, and I was trying to teach myself to play the polyrhythms using it. But in the end, I decided it would be more interesting for me as an acoustic piece than as an electro-acoustic one."

Brown says the decision to focus on acoustic piano came out of a desire to return to his piano-tuning practice. "By the time I got to Mills, I had been supporting myself as a piano tuner in San Francisco for about 10 or 15 years," he explains. "Of course, I was aware of just intonation when I was there and Lou [Harrison] was around, but it felt too narrow for me at that point. I was more interested in timbre, noise, and electronics, and it seemed like just intonation was a step backwards because there was a fascination with intervals being pure, and that was not what I was interested in—and I still am not. For me, it's about hearing interval relationships and how we can extend our ability to perceive new kinds of relationships in the higher-prime area of the harmonic series."

Nearly every aspect of *Six Primes* is derived from the whole-number ratios in a scale given to Brown by composer Ellen Fullman. Based on prime numbers up to 13 (or 13-limit), the scale is restricted to 12 notes per octave, repeated across the entire piano keyboard.

"A lot of theorists say 13-limit is as far as we can hear, but I wondered what would happen if I set just a few of those relationships on a piano. I spent the first year getting used to the tuning and trying different subsets of it."

Although the scale is made up primarily of consonant, low-number ratios, such as the harmonically perfect fourth and fifth, Brown devised a way to introduce intervals that gradually increased in complexity.

"A big step in the composing process was the realization that I needed to know what every possible interval was, not just what the primary ratios." The result is a matrix that shows every pitch relationship that can be derived from the original scale (see Figure 1).

"This gave me alternatives for every scale degree that we are used to, in terms of 12-tones-per-octave equal temperament. For example, I have different versions of the major and minor third and the major and minor sixth. However, I didn't want to write a piece that sounded like it had just one tonal center, so I tried to give all of the interval relationships equal time using processes that are more common in atonal music (such as set theory), but imposing them onto a tuning that's based on a single fundamental and the hierarchies that derive from it."

With so much material to consider, Brown decided to restrict his compositional choices by creating six subsets of the 13-limit's prime number series—2, 3, 5, 7, 11, and 13. The title of each movement indicates which numbers were used (see Figure 2).

"The first piece, '13-7-6-4,' uses the primes 13, 7, 3 and 2. The numbers 6 and 4 correspond to the primes 3 and 2, respectively, because, as I translated those numbers into rhythms, I used 4-beats to the measure against 6 beats, against 7 beats, and against 13 beats. Next, each section is derived from permutations of those four numbers. So I have a section with only 13 and 7, a section with only 13 and 6, and so on. Then I used sets of three—13, 7, and 6, or 13, 7, and 4. Eventually, I worked out all the permutations for the four numbers."

He also used this system to determine the number of measures he had to work with. "If it was 13 and 7, the section would be 20 measures long. If it was 13, 7, and 6, it would be 26 bars. Once I had it all laid out, I could compose intuitively inside those boundaries."

Considering his professional background, I wondered if Brown was able to tune the intervals for this piece solely by ear. "On the piano, I can use harmonics from the low strings to tune it, and I'll reference an electronic tuner when I need to. But it's still pretty hard for me to tune a 13-limit interval. It depends on where in the pitch scale it is. It's a fairly high harmonic relation, and it's difficult to do by ear, but it can be done once you get used to it."

One of the hurdles in performing *Six Primes* is finding producers who will allow the intonation of their piano to be altered. A major concern is whether a tuning such as this will have a negative impact on the instrument.

"It doesn't change the tension, overall," he explains. "I think that's the critical thing from the point of view of the tuner. Only a couple of the pitches are off by 50 cents from their equal-temperament counterpart—the 11/6 and 11/8 are nearly quarter-tone relationships. But the 9/8, 4/3, and 3/2 are very close to equal temperament. Of course, all of the pitches are off to a certain extent, and when you change things that much it does require a couple of tunings. But it's not so radical that it'll be hard for the piano to recover

Interval		Minor Second	Major Second	Minor Third	Major Third	Perfect Fourth	Aug. Fourth	Perfect Fifth	Minor Sixth	Major Sixth	Minor Seventh	Major Seventh
Ratio	1/1	13/12	9/8	7/6	5/4	4/3	11/8	3/2	13/8	5/3	7/4	11/6
Cents	0	139	204	267	386	498	551	702	841	884	969	1049

from it. It certainly won't damage the instrument."

In his most recent work, *First Light* (based on a poem by Jackson MacLow), Brown continues his tuning explorations in a chamber ensemble setting. Inspired by Harry Partch's "Seventeen Lyrics of Li Po," Brown scored the piece for oboist Kyle Bruckmann, cellist/singer Theresa Wong, and himself, utilizing Partch's unique 43-tone scale. His 88-key controller serves the same purpose as Partch's Chromelodeon by providing reference pitches for the performers to use as they tune each note by ear.

"In many instances, I play a pitch and they supply the intervals in relationship. If we hit a chord that's not quite right, there is a moment of adjustment as the players find the sound. You often get these gorgeous beat frequencies, which I think of as an integral part of the music. You can't expect musicians to hit all of these intervals immediately, and it's beautiful to hear them come into focus. So why shouldn't that be part of the music?"

But doesn't that defeat the purpose of using such precise intervals? "Perfection is never possible," he explains. "As a piano tuner, you realize that you could work forever on a tuning, whether it's in equal temperament or just intonation, and it'll never be perfect, because perfection is not part of the physical plane. In fact, it's more beautiful to hear a little bit of this out-of-tuneness. You quickly realize that when something is slightly out of tune, it shows you what it really means to be *in* tune."

Chris Brown's album *Six Primes* is available on New World Records (newworldrecords.org). Learn more about his music at cbmuse.com.

note	ratio	min2	maj2	min3	maj3	perf4	aug4	perf5	min6	maj6	min7	maj7
A	1	13/12	9/8	7/6	5/4	4/3	11/8	3/2	13/8	5/3	7/4	11/6
		1.386	2.039	2.669	3.863	4.98	5.513	7.02	8.405	8.844	9.688	10.494
Bb	13/12	27/26	14/13	15/13	16/13	33/26	18/13	3/2	20/13	21/13	22/13	24/13
		0.653	1.283	2.477	3.595	4.127	5.634	7.02	7.458	8.303	9.108	10.614
B	9/8	28/27	10/9	32/27	11/9	4/3	13/9	40/27	14/9	44/27	16/9	52/27
		0.63	1.824	2.941	3.474	4.98	6.366	6.804	7.649	8.455	9.961	11.347
C	7/6	15/14	8/7	33/28	9/7	39/28	10/7	3/2	11/7	12/7	13/7	27/14
		1.194	2.312	2.844	4.351	5.737	6.175	7.02	7.825	9.331	10.717	11.37
C#	5/4	16/15	11/10	6/5	13/10	4/3	7/5	22/15	8/5	26/15	9/5	28/15
		1.117	1.65	3.156	4.542	4.98	5.825	6.63	8.137	9.523	10.176	10.806
D	4/3	33/32	9/8	39/32	5/4	21/16	11/8	3/2	13/8	27/16	7/4	15/8
		0.533	2.039	3.425	3.863	4.708	5.513	7.02	8.405	9.059	9.688	10.883
D#	11/8	12/11	13/11	40/33	14/11	4/3	16/11	52/33	18/11	56/33	20/11	64/33
		1.506	2.892	3.33	4.175	4.98	6.487	7.873	8.526	9.156	10.35	11.467
E	3/2	13/12	10/9	7/6	11/9	4/3	13/9	3/2	14/9	5/3	16/9	11/6
		1.386	1.824	2.669	3.474	4.98	6.366	7.02	7.649	8.844	9.961	10.494
F	13/8	40/39	14/13	44/39	16/13	4/3	18/13	56/39	20/13	64/39	22/13	24/13
		0.438	1.283	2.088	3.595	4.98	5.634	6.263	7.458	8.575	9.108	10.614
F#	5/3	21/20	11/10	6/5	13/10	27/20	7/5	3/2	8/5	33/20	9/5	39/20
		0.845	1.65	3.156	4.542	5.196	5.825	7.02	8.137	8.67	10.176	11.562
G	7/4	22/21	8/7	26/21	9/7	4/3	10/7	32/21	11/7	12/7	13/7	40/21
		0.805	2.312	3.697	4.351	4.98	6.175	7.292	7.825	9.331	10.717	11.155
G#	11/6	12/11	13/11	27/22	14/11	15/11	16/11	3/2	18/11	39/22	20/11	21/11
		1.506	2.892	3.545	4.175	5.37	6.487	7.02	8.526	9.912	10.35	11.195

FIG. 1: In the Six Primes tuning and interval matrix, notice that each scale step (for example, the major third) can be represented by different ratios (e.g., 5/4, 16/13, 11/9, etc.).

FIG. 2: An excerpt from the movement "13-7-6-4."

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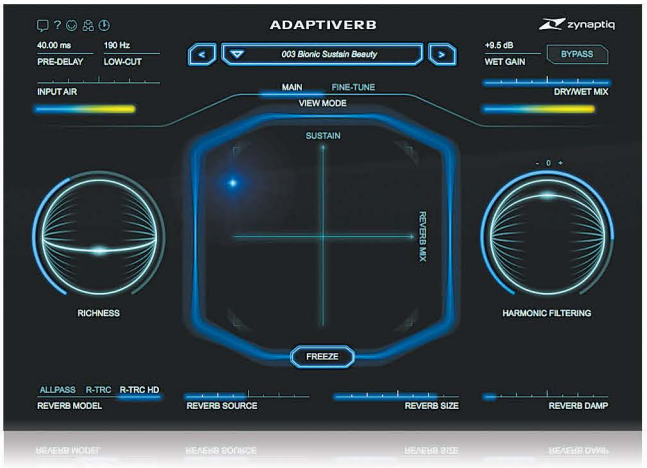

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5 WAYS TO PLAY LIKE Shirley Horn

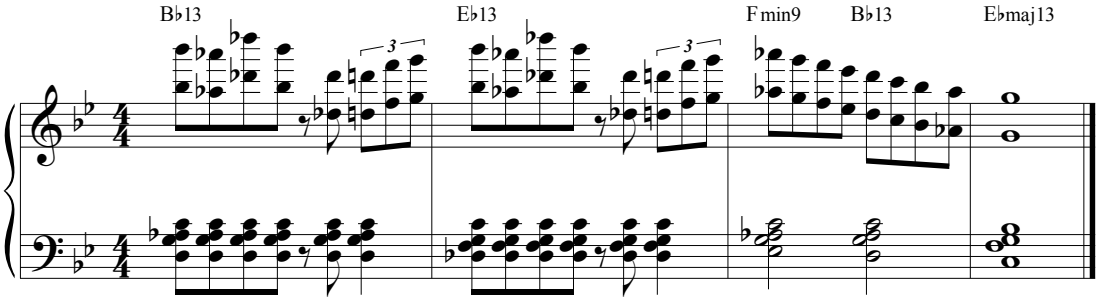
BY BRIAN CHARETTE

Bio

"Shirley Horn was a master of independence between her vocal lines and piano accompaniment, supporting silky vocal riffs with bluesy piano comps," says keyboardist and composer **Brian Charette**, who won Downbeat Magazine's "Rising Star Organ" award and recently released the album *Once & Future*. His new book is titled *101 Hammond B-3 Tips: Stuff All the Pros Know and Use*. Find out more at briancharette.com.

SINGER AND PIANIST SHIRLEY HORN GREW UP IN A MUSICAL HOUSEHOLD IN WASHINGTON, D.C., AND WAS INTRODUCED to music by her parents. Horn was drawn to classical music early (particularly the music of Rachmaninoff and Debussy), but after listening to pianists such as Oscar Peterson and Ahmad Jamal, she developed a deep interest in jazz. In 1960, Horn's first recording, *Embers and Ashes* made an impression on Miles Davis, who invited her to open for him at New York City's famed Village Vanguard. That performance raised awareness of Horn's great talent and helped launch her prolific career. Let's examine the musical stylings of Shirley Horn in more detail.

Ex. 1



1. High-Octane Octaves

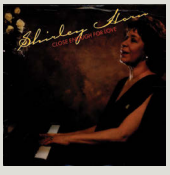
Horn often used the piano to mimic the sound of a big band. In swinging sections, she would sometimes play octave melodies in her right hand supported by left hand "shell" voicings. In **Ex. 1**, the right hand riffs in the first two bars come from the *Bb* Blues scale (*B♭, D♭, Eb, E, F, A♭, B♭*) and the *G* Minor Pentatonic scale (*G, B♭, C, D, F, G*). The octaves are played with the thumb on the lower note and the pinky on top. (For extra effect, you can smear the notes in the middle of the octave for a sloppy sound.) The last two bars in the right hand come from the *B♭* Mixolydian mode (*B♭, C, D, E♭, F, G, A♭, B♭*). The left hand voicings are versions of what most jazz pianists call the A and B form voicings; bars 3 and 4 in the left hand part are versions of these chords in *second* inversion. Try learning these voicings in all 12 keys to become familiar with where to raise or lower certain notes to form chord alterations such as the ♯5 or ♯9.

Ex. 2

2. The Pedaled Intro

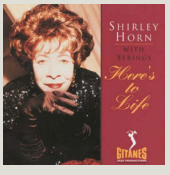
Horn sometimes set up jazz standards with a pedaled intro, as seen in **Ex. 2**. All of the notes come from the *C* Mixolydian mode (*C, D, E, F, G, A, B♭, C*). After deciding on a melody for the top voice, it's easy to fill in colorful notes below by just picking some from the scale. You don't have to be overly concerned with which notes you hit. Just stay in the mode at hand and all the notes will sound good! These right hand shapes function much like a sax section would in a big band, and the left hand part provides the pedal in octaves with an eighth note syncopation that propels the time.

Listening List Essential Shirley Horn Albums



Close Enough for Love

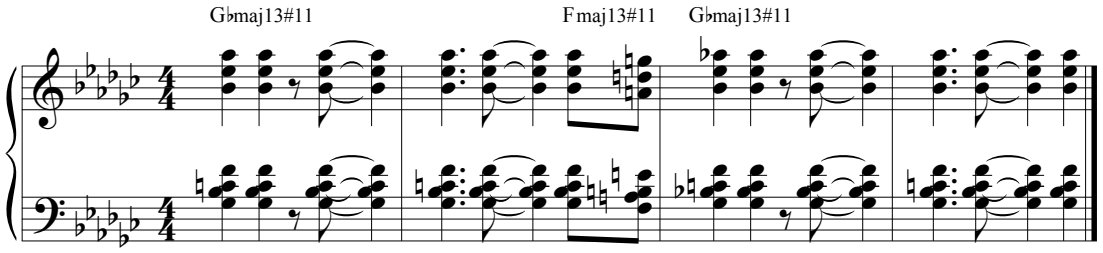
I Thought About You



Here's to Life

You Won't Forget Me

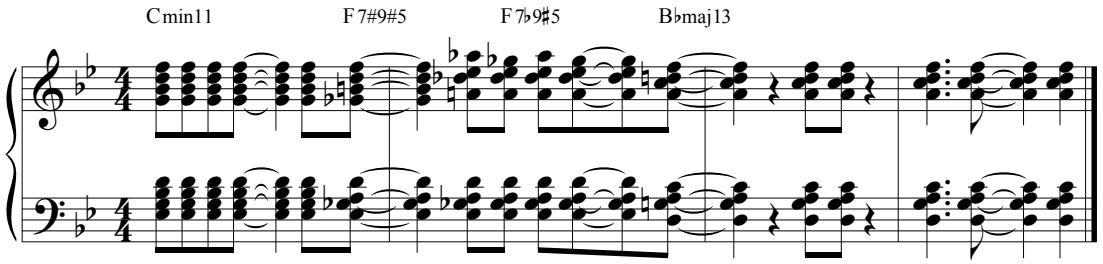
Ex. 3



3. Latin Grooves

On tender Latin ballads, Horn often plays repetitive figures that accentuate the off-beats, like those in **Ex. 3**. This sounds great against seductive Bossa Nova rhythms. The voicings here are a combination of the shells we saw in the previous examples, and fourth voicings on the top, here starting on the third scale degree. The combinations of these two shapes together makes for great sounding chords. These chords stay relatively still, save for a chromatic embellishment of a half step below every note on the "and" of beat 4 in bar 2. On your own, try putting fourth voicings above your left hand shells to discover interesting chords with great alterations. For example, over an *E♭Maj7* shell in the left hand (see the last bar of Ex.1), play right hand fourths on *D, F,* and *A* to get cool sounding chords.

Ex. 4



4. Altered Chording

Let's try combining a few of these concepts over a standard ii-V progression. **Ex. 4** starts with stacked seventh chords. By placing a root position *Gmin7* chord above an *E♭Maj7* chord, we get a great *Cmin11* sound reminiscent of a Basie Big Band shout. At the end of the bar, we come upon some funky chord alterations. Notice that the notes in the right hand are changing more frequently that those in the left hand part. While this may seem technically incorrect, this style is not about perfection. It's all about swing, and as such can be played somewhat sloppy.

Ex. 5

5. More Tips and Tricks

Ex. 5 illustrates a few more pianistic tricks inspired by Horn's playing. In bar 1, we see interesting symmetrical chord color by placing third inversion triads over a flatted ninth note. The lowest notes are played by the left hand and come from a *Cdim7* chord. The triads have roots a half step below each of these notes. Notice that all the notes are from the *B* diminished scale (*B, C♯, D, E, F, G, A♭, B♭, B*). Bar 2 is called a "piano harp" and is meant to be played very quickly. The hands cross over each other rapidly, which imitates the sound of a harp. Bar 3 expands on the symmetry of diminished harmony, with chords that have the top note raised by a whole step for a modern sound. The left hand plays a diminished chord a half step below each root to get a variation on what is called a double diminished chord. The last bar has a McCoy Tyner-ish exercise with fourth chords that work great over *Cmin*, *E♭Maj7*, *F13*, and *Am7♭5* chords. ♫

Watch Shirley Horn playing live at The Newport Jazz Festival.

Hear Charette play the audio examples from this lesson online.

keyboardmag.com/january2017

Modern Synth
COMPING CONCEPTS

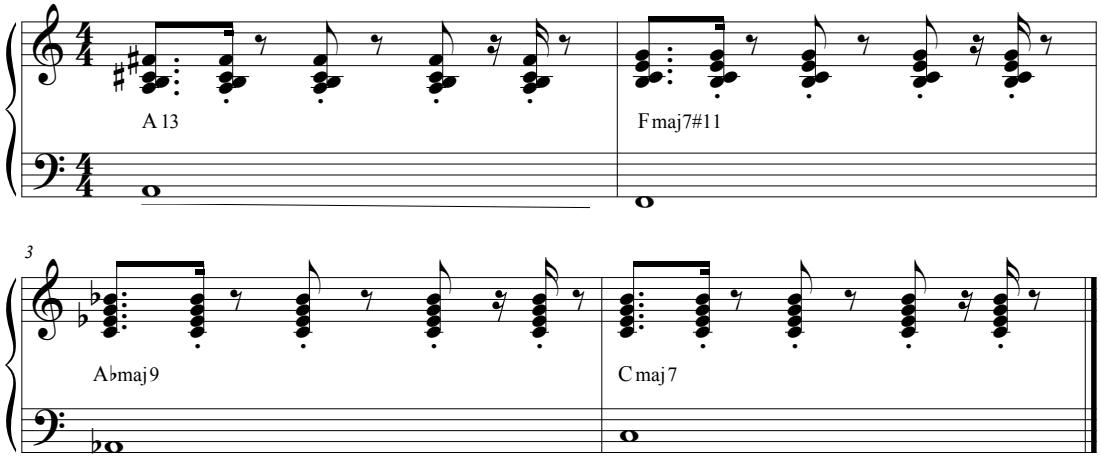
RACHEL ECKROTH

Bio

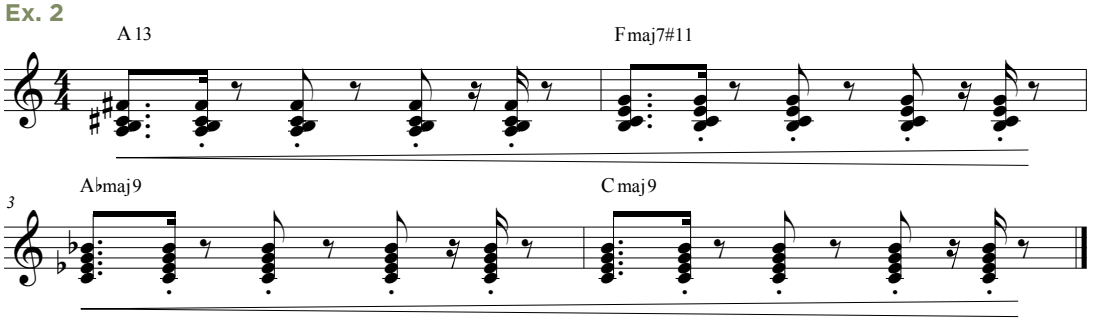
Composer and keyboardist Rachel Eckroth is currently on tour with KT Tunstall. Rachel's most recent album, *Let Go,* is available now. Learn more at racheleckroth.com

ANALOG-STYLE KEYBOARD SYNTHS OFFER INTUITIVE, HANDS-ON CONTROL OVER VITAL sound-shaping parameters that you can use to orchestrate your tone as you play (see Figure 1). Because one of the roles of a keyboardist is to accompany other musicians, having immediate access to each characteristic of your patch lets you modify the sound to support a soloist better. This article focuses on five classic techniques that you can use to add interest in your comping patterns in addition to rhythmic and harmonic variation.

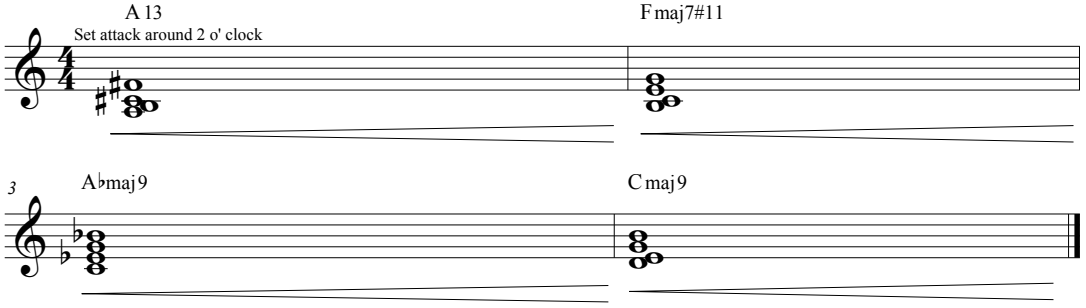
Ex. 1



Ex. 2



Ex. 3



Begin with a basic synth patch (such as a saw wave) as you work through these examples. A certain amount of coordination is required when executing these techniques, where one hand is on the keys while the other turns a knob. Depending on how the controls are laid out on your synth, you may want to alternate hands; switch back and forth to determine which way of playing feels the most natural.

1. Basic Comping Pattern

Ex. 1 illustrates the basic chord progression and comping pattern we will build on.

2. Highpass and Lowpass Filter Sweeps

A gradual filter sweep is one of the most commonly used effects on a synth. The crescendo marking in **Ex. 2** demonstrates where you would manually change a filter's frequency cutoff to alter the timbre of your patch and build excitement or tension behind a soloist. Start with the cutoff knob all the way down and slowly open the filter through all four bars of the pattern. If you use a lowpass filter, your patch will sound muted at the beginning and brighten as the filter opens. Using a highpass filter, lower frequencies will be gradually revealed as you turn the cutoff knob. An audio example of both types of filter sweeps is available online.

3. Alter the Attack

In **Ex. 3**, each chord is sustained throughout the bar. By manipulating the envelope generator's Attack control on your synth, you can adjust the amount of time it takes for the notes to fade in. Alter this parameter as you play to match the volume swells to the tempo or chord changes of a song.

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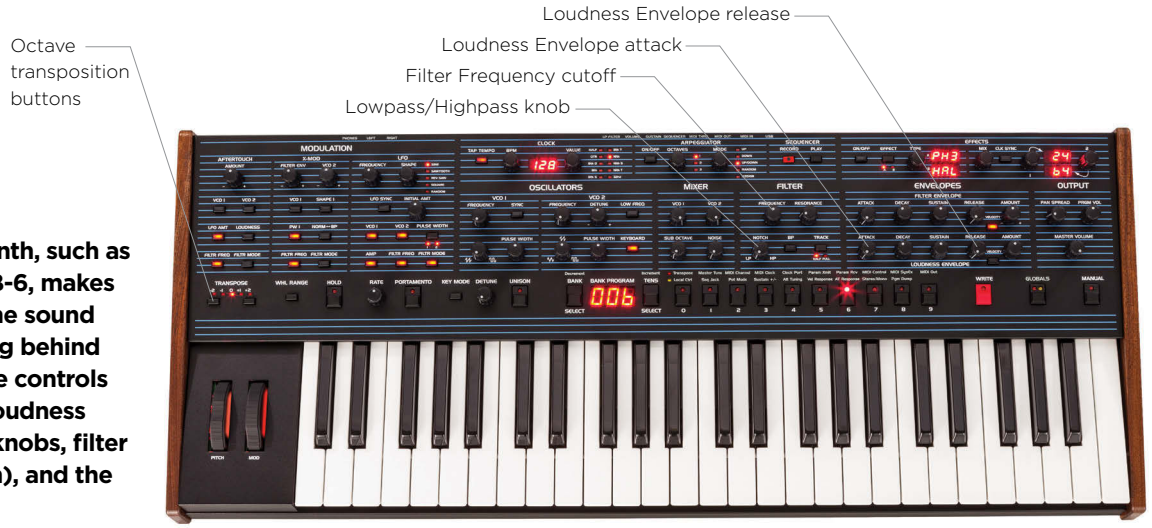
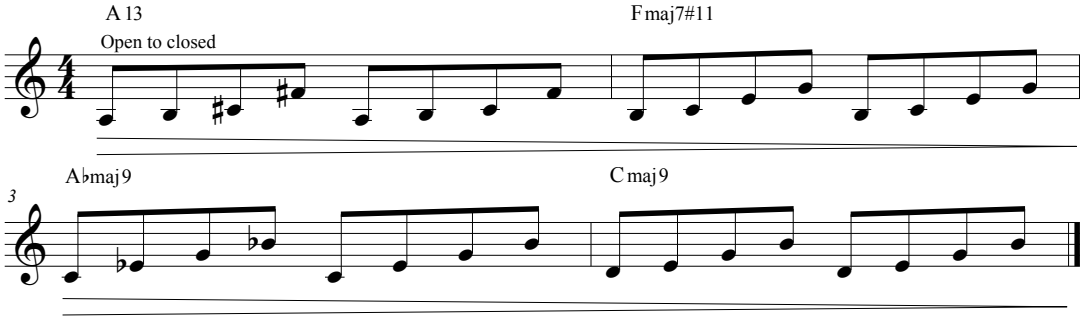
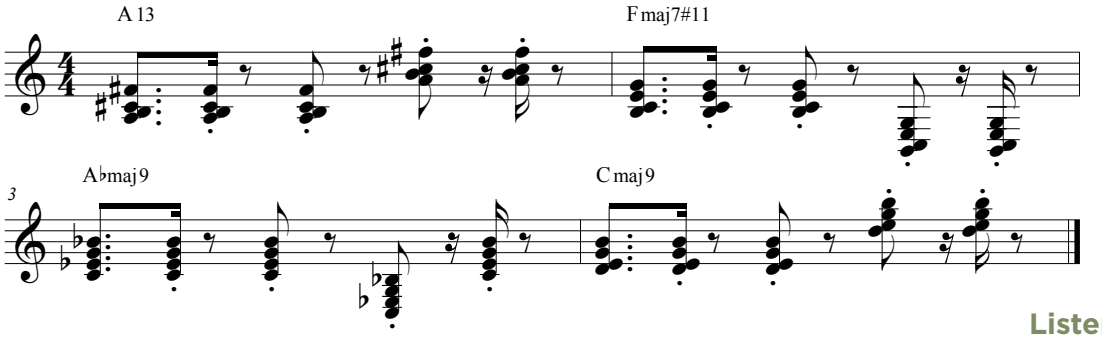


Fig. 1: A modern analog polysynth, such as the Dave Smith Instruments OB-6, makes it easy and intuitive to tweak the sound of your patch as you're comping behind a soloist. We've pointed out the controls described in this article—the Loudness Envelope's attack and release knobs, filter cutoff (Frequency on this synth), and the octave button (Transpose).

Ex. 4



Ex. 5



4. Release

I've changed the comping style to a single-note pattern in **Ex. 4** to demonstrate how you can use the Release knob of an envelope generator to gradually shorten the sustain of the notes. Starting with the release knob turned up so that the notes ring out, gradually shorten the release time at the beginning of each bar so that the tone gets progressively more staccato sounding.

5. The Octave Button

An Octave button allows you to instantly transpose the keyboard up or down one or two octaves. **Ex. 5** shows the octave switch being used in the second half of each phrase. Octave displacement can sound very exciting if you use it in an unpredictable and random way, especially at faster tempos. When practicing, start slow and focus on keeping the comping rhythm in the pocket.

Listen and Support

When playing behind a soloist, consider the entire arc of the solo and pay attention to where he or she is taking the music emotionally. Rather than simply laying down the changes, alter your patch's tone and color to aid the soloist in building up and releasing tension, throughout. But don't be too sporadic about your patch changes: Choose one and build on it carefully. And think of these techniques the same way you would think about harmony, melody, and rhythm—as just another avenue of musical expression. ♫

Listening List—Modern Synth Comping

Jason Lindner on Donny McCaslin's *Fast Future and Beyond Now*

Big Yuki (Yuki Harano) on *Greek Fire*

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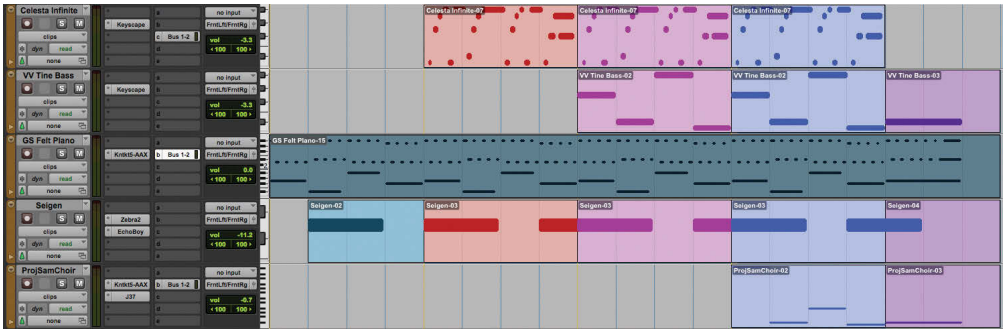
CINEMATIC COMPOSITION

DAVID BARON

THE TERM *CINEMATIC MUSIC* HAS BEEN USED TO DESCRIBE EVERYTHING FROM the grand orchestral work of John Williams and the hybrid scores of Hans Zimmer to lonely, solo piano textures. Over the past few years, powerful plug-ins and sound libraries have been released that greatly expand the palette for composers who score music for film and television. In this article, I'll demonstrate how to create haunting and expansive scores through the layering and processing of virtual instruments, using some of my favorite software as examples. The notated music for each example can be viewed online at keyboardmag.com.



Ex. 1

Dreamscape

Ex. 1 is based around a soft piano sound. The chord progression is simple—*G* minor, *E*♭, *B*♭, *D*/*F*♯—and the minimalist part creates a dreamy atmosphere that sits very well against dialog. The library I used is Spitfire Audio's "Gwilym Simcock - Felt Piano," part of their Producer Portfolio series. They sampled a hand-crafted, German instrument with the "celeste" pedal engaged (sometimes called the "practice pedal," because it dampens the strings with felt and makes them quieter). The result is a subdued, haunting tone reminiscent of Thomas Newman's soundtrack for *American Beauty* and Gary Jules/Michael Andrews' cover of Tears for Fears' "Mad World" in the film *Donnie Darko*. Spitfire makes some of the best Kontakt libraries available: Their programmers come from the world of film scoring, and it shows.

The depth of sampling in Spectrasonics Keyscape makes it ideal for cinematic work (see our review on page 40). From this collection, I layered "Celesta Orchestral" over the piano part to add texture. "Celesta Orchestral" has the just right amount of reverb, which places the instrument behind the piano and creates depth, widens the soundstage, and gives the cue a magical feel.

I also used Keyscape for a simple whole-note bass part, choosing from the selection of electromechanical keyboard basses. I particularly love the "Vintage Vibe Tine Bass," which lets you dial in rawness and grit using the Tape control. Lately, I've been substituting these instruments in places where I used to use more generic, sine wave-based sounds. Sub-bass instruments can also be used to make a composition feel bigger.

U-he Zebra, one of the most powerful plug-in synthesizers available, was added next to create an un-pitched, atmospheric percussion part. I also layered a patch called "Seigen" from a third-party library—Zebra Gravastar by The Unfinished—with delay provided by Soundtoys EchoBoy.

The final texture features chords from the ProjectSAM Kontakt library, "Lumina." The patch called "Orchestra and Choir Chords" is going through the Waves J37 Tape plug-in (modeled after a vintage tape machine from Abbey Road Studios) to make it dirtier and add delay.

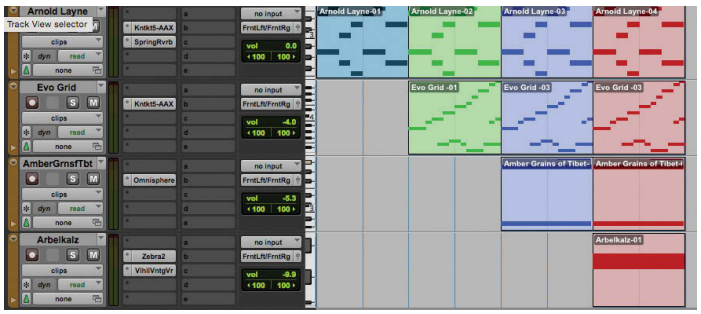
To glue everything together in an acoustic space, I used a touch of Hall reverb from Audio Ease Altiverb (I love their "Phillip's Hall") and put Izotope Ozone 7 on the master, where the preset "Enhance stereo image" widened the mix perfectly.

Iceland

Some amazing music has been coming from Iceland lately, and **Ex. 2** is inspired by the stark tonalities that island nation has produced. For this track, I started with an organ sound—the "Arnold Layne" preset in Native Instruments "Vintage Organs," a library based on samples of a Farfisa Compact. The lack of midrange frequencies in this part left room for me to use other instruments to fill out the top-end. The musical figure is based around simple two-note chords, and I processed the part through a Pro Tools spring reverb plug-in to make it sound even spacier.

Strings are a big part of cinematic music, and I tend to favor smaller, more interesting string ensembles over huge "Hollywood string" sonorities, because the character—such as bow noise and other imperfections—really comes across when you use fewer orchestral elements. I love Spitfire Audio's "Evo" series, which animates the strings in a very interesting way. Here, I used the Evo Grid 01 Strings file "b Evo Strings Warped" to add an icy layer on top of the organ. The musical figure is an ascending two-part melody.

Orchestrationally, I like to make strings suspend or go over the bar lines. Don't be too con-



cerned about notes lingering that are not in the chord. Resolve them and all will sound great.

Spectrasonics Omnisphere has some of the most playable sound-textures available. I chose "Amber Grains of Tibet," which provides an organic, almost insect-like quality to the track, then settled on u-he Zebra to create a rhythmic bell tone that builds tension.

Piano Sounds: Uprights Versus Grands

A large piano is not always the best choice in every application. There are major sonic differences between uprights and grand pianos, which often sound louder and have more pronounced bass. In my work, I tend to choose pianos that have lots of character.

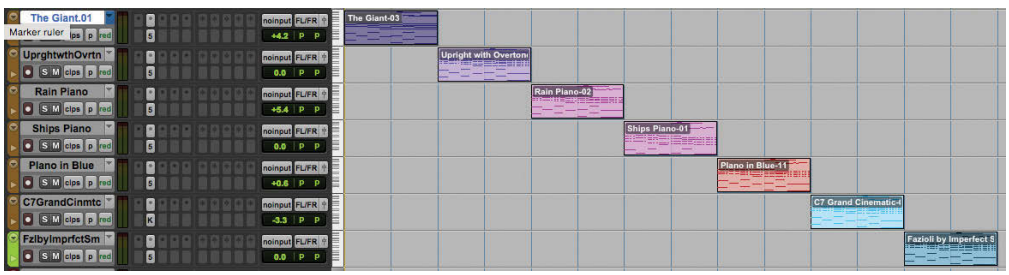
In **Ex. 3**, I scored the same eight-bar phrase for a variety of sampled pianos to give you an idea of some good choices for cinematic sounding music. For upright pianos, I chose the patch "Upright with Overtones" from Native Instruments "The Giant" (Kontakt); Sampletekk "Rain Piano" (Kontakt), an instrument inspired by Tom Waits' *Mule Variations*; and Sound Dust "Ships Piano" (Kontakt), a mini-upright designed for use on boats.

For grand pianos I chose Cinesamples "Piano in Blue" (Kontakt), a faithful re-creation of the Steinway piano used on Miles Davis' *Kind of Blue*—and my personal favorite; the "Yamaha C7 Grand Cinematic" from Keyscape, a huge sounding modern grand; and the "Fazioli Concert Grand" from Imperfect Samples (Kontakt), based on a handmade Italian instrument by Fazioli Pianoforti.

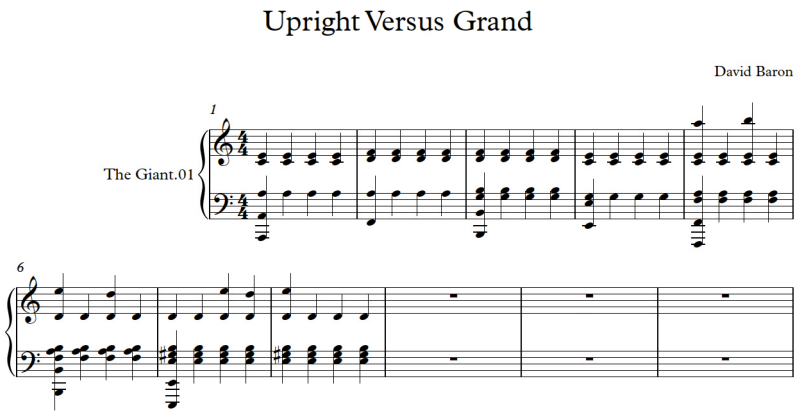
Ex. 2

Final Thoughts

When creating cinematic scores, be bold with processing (e.g., long reverb trails) and think about contrasts. For example, if you have a very dark sound, put something bright next to it. And always avoid generic sound choices. Remember that cinematic music is about taking your time to build repetitive patterns, create atmosphere, and craft the emotional arc of a scene. ♫



Ex. 3



Bio

New York-based keyboardist, composer and producer David Baron has written jingles and TV theme songs, and his work appears on recent albums by Lenny Kravitz and Meghan Trainor. Baron is currently scoring the feature film *Ashes and Snow* for the acclaimed artist Gregory Colbert, and he teaches Audio Production and Film Scoring at Bennington College in Vermont. Visit him at edisonmusiccorp.com.

SOUNDCLOUD

VIDEO: Distance of Time: A Piece for ARP 2500 Synthesizer by David Baron

Hear David play the audio examples and see the notated scores from this lesson online.

keyboardmag.com/january2017

THE ART OF SYNTH SOLOING

Tony Banks—The Early Years

BY JERRY KOVARSKY

IT TAKES ADMIRABLE RESTRAINT TO PLAY ONLY WHAT'S NEEDED FOR A SONG, AND TO COMPOSE, ACCOMPANY, AND orchestrate without the need to shout "Hey, look at me!" These traits are the foundation of the tasteful playing by Genesis keyboardist, Tony Banks. Even in the band's early days, when the music was at its most adventurous, his parts always served the composition.

In *Keyboard*'s first interview with him in 1976 (available online at keyboardmag.com), Banks says he was impressed by Keith Emerson and The Nice when he saw them live, but was more influenced by Matthew Fisher (the organist from Procol Harum), because his parts served the song so well. He decided that was the direction he wanted to go in, because, get this: "I could never be so technically impressive."

In our 1978 interview, Banks discussed how he thought of solos more as instrumentals and tended to play most of them the same night after night. These attributes of his playing gave me pause about covering him in the context of this column, even though I get a lot of requests. But I decided it is a good lesson to share. Not all of our solo sections should be about playing to impress with technique: Creating a memorable mood, playing interesting melodic and harmonic ideas, and using a suitable synth timbre in service to the composition are the most musical goals I can think of. So let's celebrate some of Tony's most memorable moments.

Ex. 1. This is the first half of Tony Banks' classic synth solo from "Cinema Show." It provides an excellent example of how melodic he could be using simple scale runs and arpeggios. The second half of the solo is available online.

A Fan Favorite

One of the top requests I get is for "Cinema Show," from *Selling England by the Pound* (1973). On this album, Tony's rig consisted of a Hammond T-102 organ, an RMI electric piano (run through an MXR Phase 100 and a Fender Blender fuzz pedal), a Mellotron 400, and (for the first time) an ARP Pro Soloist synth. Emulating the Pro Soloist lead sound is pretty simple, as it was a single-oscillator synth. But I think it's fine to use two oscillators as long as you don't detune them much. The solo starts out with a relatively bright square-wave sound, and then quickly introduces some deeper filter resonance, swept and then left alone. Be sure to add a touch of portamento, as well.

Ex. 1 shows the main part of the synth solo: The song has moved from 4/4 into 7/8 and, after some RMI electric-piano playing, the synth comes in. Bar 3 features a nice descending *E* minor pentatonic run. Bars 6 through 8 require that you put your synth in mono mode/last-note priority so you can play the short, lower notes and then the main upper note and get the right "glitchy" triggering.

How do you approach bars 11 through 17 if your sound is in mono mode? You can switch to another version of the sound and have two oscillators tuned in fourths, or use a controller to modulate the pitch of an oscillator so it goes down a fourth, and then play the higher note. Or, you can switch your sound from mono to poly if your instrument supports that. Bars 19 through 24 are pretty basic downward arpeggio groupings, followed by some nice lines that remind me of a Hanon exercise. All in all, these are fairly simple note choices against the harmony, but they create a lovely melodic section. A transcription of the entire solo is available online for you to study.

Transcribed by
Jerry Kovarsky

In The Cage

(The Lamb Lies Down On Broadway 1974)

Tony Banks
synth solo

Ex. 2. This is a transcription of the entire synth solo from "In The Cage," which has a classical flavor. It also shows how "composed" Tony's solos, or interludes, were.

Tony Lays It Down

The song "In The Cage," from Genesis' 1974 epic *The Lamb Lies Down On Broadway* has remained a concert staple for the band, even through their 2007 reunion tour. This synth sound is a basic sawtooth, mono lead with a medium amount of portamento. Remember Tony's self-effacing comment regarding his lack of technique? Try to play **Ex. 2** up to tempo and you'll certainly disagree. Opening with a straight *E♭ major* scale run, Tony's lines quickly evolve into arpeggiated figures that retain a consistent upper tone alternation between *E♭* and *F* across the various chords. It is vaguely classic in nature and simply perfect. The scale run returns in bar 7 and continues across through bar 9, after which he develops a recurring figure that he uses through to the end of the solo in various ways.

More To Come

Next month, I'll look at a few tunes from the later years of the band, when Tony's rig evolved and he used a wider variety of keyboards and synth sounds. ♫

Full transcriptions of the solos from "Cinema Show" and "In the Cage" are available online for further study.

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Advanced Wavetable Design

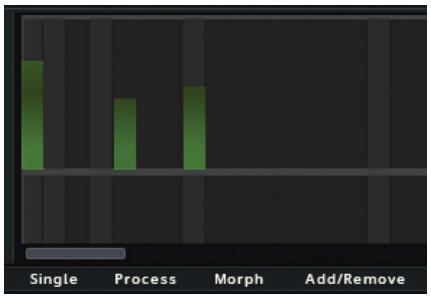
EMULATING THE PPG WAVE WITH XFER RECORDS SERUM

BY FRANCIS PRÈVE

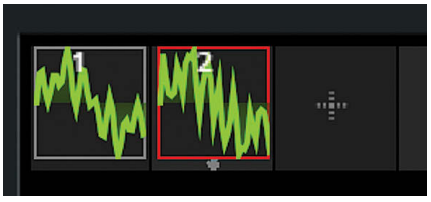
LAST MONTH, I SHOWED YOU HOW TO CREATE SIMPLE WAVETABLES USING XFER RECORDS SERUM. NOW, WE'LL BUILD ON those tutorials to create a complex wavetable in Serum that evokes the crystalline morphing characteristics of the iconic PPG Wave 2 synthesizer by legendary designer, Wolfgang Palm.

You should also have the November 2016 issue of *Keyboard* handy for reference (it's available online), because my tutorial for additive synthesis is also relevant to this month's column.

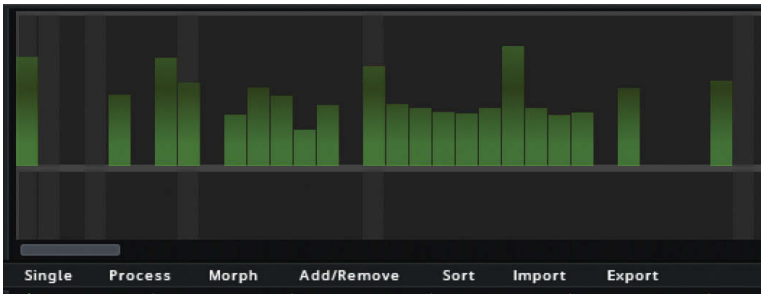
Step 1. Starting with Serum's Init preset, click on the pencil icon next to the default sawtooth to open the wavetable editor.



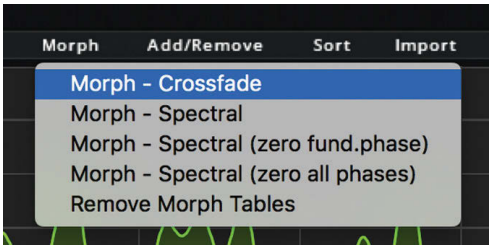
Step 2. Select the first sawtooth index. Then, in the harmonic editor at the top of the window, raise the level of the first bin to 75%-90%. This turns the original sawtooth into a sine wave, reflecting the edited harmonics. From there, raise the level of one or two more bins (but no more). This will create the starting wave for your wavetable with an organ or bell-like character.



Step 3. Click the second index, which will copy the first waveform and its harmonics. Add a few more harmonics without changing the levels of any of the previous harmonics.



Step 4. Repeat this process, gradually adding more harmonics for each wavetable index. Do this a few more times, until your final index is richly textured.



Step 5. Now click on the Morph pull-down menu and select Morph - Crossfade. This will generate interpolations between each of the indices, creating a complex wavetable that morphs smoothly as it increases in complexity.

As with last month's CZ-esque wavetable, turning Serum's WT Pos (wavetable position) knob adjusts the morph and allows you to modulate your original wavetable with envelopes and LFOs. To take the instrument a step further, dial in a touch of unison detuning for added depth. ♫

SOUNDCLOUD Audio examples.

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SPECTRASONICS Keyscape

BY JERRY KOVARSKY

KEYSCAPE IS A VIRTUAL INSTRUMENT COLLECTION OF CAREFULLY CURATED keyboard instruments—from obvious and essential choices to historical rarities and unique offerings. It runs on Mac OS X and Windows as a 64-bit VST, AU or AAX plug-in. As this review went to press, we learned that a stand-alone version is also in the works.

Snap Judgment

PRO A wide variety of stunningly nuanced and playable instruments. Stellar sound design.

CON Nothing significant. But be sure your system is up to running it before purchase: Using an SSD drive will increase performance.

When you open Keyscape, you're presented with a browser on the left side of the screen, with intelligent choices to help you navigate through the included ware (see Figure 1). Keyscape offers 36 instruments, each with plenty of Patches, for a total of nearly 500 sounds. The main screen presents a large graphic of the chosen instrument, with parameter fields below that are logically grouped in categories such as Main, Tone, Amp, Effects, Settings and Info: Beyond Main, Settings and Info, the tabs differ depending on the instruments.

It is critically important to select a velocity-curve response (under Settings) that matches your touch and controller to get these highly nuanced and dynamic sounds to play at their best. During the time I was reviewing Keyscape, Spectrasonics released an update the provided additional curves for popular keyboards.

The sounds are sampled and crafted with the depth and expertise that users have come to expect from Spectrasonics. Patches include up to 32 levels of velocity switching, individual key sampling with multiple modes of round-robin articulation, appropriate mechanical noise options for both the attack and release of notes, release samples, and a host of vintage and modern effects and amp models to further shape the sounds. Obvious skill and attention went into the sourcing, including careful rebuilding, maintenance, and customization of the source instrument. All this translates into some large sounds, which is why the company offers a thinning option, which uses fewer velocity layers and round-robin choices. In general, I found that it cut the load time in half, and in contexts where the sound will be somewhat masked, you won't suffer too much.

The Heart Of The Matter

Keyscape offers a highly modified Yamaha C7, with custom hammers, specialized felts, and a lot of shaping: It does not sound like the cliché, bright pop-piano so many think of. It is clear, warmer than you would expect, and speaks well at all velocity levels. I found it very satisfying to play.

I especially enjoyed how well notes sustained before the natural decay, and I was able to play very legato, "singing" melodies, something I can't do on a lot of sampled pianos. No, it is not really "woody" and is not the piano for everyone, but over all it's a nice instrument.

Three world-class instruments represent the Rhodes/tine-based electric piano. The early-'70s Mark I suitcase model is simply stunning and speaks well across its whole range and touch (see Figure 2). Adjusting the velocity curve brings out the right amount of bark (when you hit it hard) or tames it. You can blend in mechanical noise captured by a mic placed close to the action, which helps give the feeling that you are playing the real thing. The release samples are excellent, delivering the low-end funk that had me thinking of the late George Duke and smiling.

The Tone Tab has eight settings for the preamp, which combined with EQ produces a wide range of options. For many of its instruments Keyscape offers a control called Color Shift. It transposes the sample map and then retunes the notes so the pitch remains the same, but each note uses progressively adjacent samples (either from below and stretched up, or from above and stretched down). This produces a range of new colors and on the Rhodes it modifies the tine/bell-tone in pleasing ways. Emulations of Studio and Spring reverb, along with Tape Echo help put the sound in the right space, and a selection of eight modulation effects includes all the classics.

The second Rhodes is the stuff of legend. Based on the model used on recordings throughout the '80s, the "LA Custom E" is a 1974 suitcase voiced to have a wonderfully pronounced tine tone. Its Tone Tab differs from the Classic, offering the choice of direct or a miked speaker source with 3-band EQ. It also plays differently, with less bark when pushed. It is absolutely gorgeous sounding, and Rhodes aficionados will rejoice to be able to use this Holy Grail instrument.

Lastly, Keyscape offers the Vintage Vibe Tine Piano, an instrument currently in production. It has a slightly tighter, more focused sound, with a crisp attack. But dialing back the Treble can produce a darker, warm tone as well. And it can bark nicely when you want it to. All three instruments offer Patches that are straight, warmly modulated, run through a variety of amps, and much more. A Vintage Rhodes Piano Bass and a Vintage Vibe Tine Bass are also included. This is a stunning collection of Rhodes instruments: What more could I possibly want? I'd like to see an early-model, felt-tip hammer Rhodes to capture that much sought-after sound.

The Wurlitzer, or reed electric-piano, is represented by the rare 140B and the more common 200A. The 140B is wonderfully gritty and works well for soulful and bluesy playing. The 200A is a bit thicker and barks perfectly when you dig into it. The range of Patches includes clean, amped, and quirky ambient sounds.

Hohner Time!

Hohner keyboards are well represented. The classic Model C Clavinet that Mr. Wonder employed so well just oozes attitude (see Figure 3). A wide range of amp choices and wah-wahs are available, including two called Phaser and Throaty, which use all-pass and formant filters, respectively, to get cool talk-box jams going.

The Clavinet-Pianet Duo is an instrument that combined a Model E7 Clavinet with a Pianet T in the same case. This blended sound is unique, as the wonderful Patches ably represent.

The third Clavinet choice is a modern-day re-creation from Vintage Vibe called the Vibanet, a beefy instrument with a powerful low-end (when you want it) and a great addition to the family. All the Clavs benefit from experimenting with the Color Shift, and I'm so pleased that the dreaded key-off "thwack" is a parameter that you can dial in (or out) to taste.

Once again, good things come in threes, as Keyscape offers the Hohner Pianet N, T, and the rare M models. The N has a warm, earthy sound somewhat reminiscent of a Wurli, but is a bit thinner and cuts through a mix nicely. The Pianet T sounds gently bell-like, more akin to the Rhodes than the Wurli. The Pianet M is supposed to be the same as the T, just in a different wooden cabinet, with built-in speakers and a modulation effect. But to my ears the instrument in Keyscape is much more N-sounding, with none of

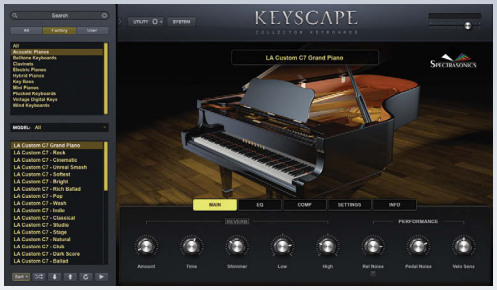

Figure 1. The main screen of Keyscape with the browser (which can be hidden if desired)

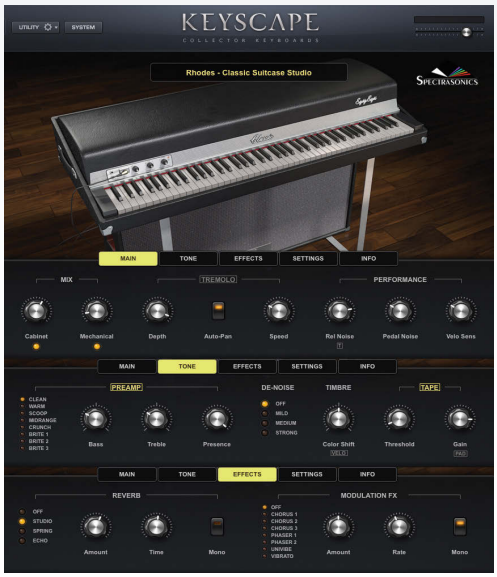

Figure 2. The Rhodes Classic Suitcase Studio with the three main tabs presented in a composite image, to show all the tone-shaping options.

Figure 3. The Hohner Clavinet C, with the three main tabs presented in a composite image, to show all the tone-shaping options.

the bell sound of a T. Strange, but I like it a lot. The Mechanical Noise and Release Noises, plus the addition of Tremolo, various amps, distortion and fuzz pedals, and a wonderful Tape Saturation effect (used throughout the collection) really shine here.

Back To The '80's

As digital synthesizers started supplanting the electro-mechanical legends of the day, some models stood out. Given Eric Persing's long history creating sounds and instruments for Roland, it comes as no surprise that the MKS-20 Digital Piano and the MK-80 Digital Rhodes are featured. The MKS-20 was the secret sauce in Elton John's piano sound and was popular in gospel music. Its electric piano was a welcome alternative to the omnipresent DX-7 Rhodes emulations and is surprisingly fresh to my ears. A JD-800 Rhodes-like sound is included as well. Finally, the Yamaha CP-70 is offered: I've heard a lot of anemic sampled versions of this electro-acoustic grand piano, but this one surpasses them all.

Some Alternate Instruments

The Wing Upright Piano is a century-old instrument with a lot of character. A variant, called Wing Tack Piano, uses small metal rings placed between the hammers and the strings to produce a wonderful texture that is more musical to my ears than the thumbtacks-on-the-hammers saloon-piano approach.

Space doesn't permit me to describe all the historical pianos, but the Mini Student Butterfly and a nice range of Toy Pianos cover the spectrum from small plucked strings to glassy, bell-like sounds. Bell tone keyboards include the Celeste, it's predecessor the Dulcitone, and a wonderful bell/chime device from the 1930s called a Chimeatron. A clavichord, and electric harpsichord are provided, and I was drawn to the super-rare Dolceola, a strange cousin to the zither/hammered dulcimer. I can't emphasize enough how cool and unique these sounds are.

It Takes Two...

Duos, which combine Patches, show off the sound-design skills of the Spectrasonics crew. Given the sound palette you can guess some of the blends they provide, like combos of acoustic piano and various forms of electric piano, and blends of electro-mechanical and digital electric pianos. Tip of the iceberg, my friends.

Bottom Line

A treasure-trove of well crafted keyboard sounds.

$399
spectrasonics.net

The entire category called Hybrid Pianos is great fun, and here is where having all those quirky toy pianos and rarities prove their worth. While you have decent sound-shaping controls, there are some parameters I wish we had more control over. Top choice would be send levels for each element into shared effects like reverb. This can only be controlled when loading the sounds into Omnisphere 2 (see the sidebar Omnisphere Integration). Next would be some way of choosing each sound element individually when working with parameters such as Release Noise and Color Shift.

Wrap It Up

Obviously, I am very impressed with Keyscape. Every sourced instrument and sound is done impeccably, and it responds to my playing like a fine instrument. The list of things I wish were added or improved is small and none of them got in the way of my enjoyment and inspiration.

We'll be seeing Keyscape as a go-to element in most keyboard rigs over time; it's just that good. Well-played. ♫

OMNISPHERE INTEGRATION

Spectrasonics Omnisphere 2 owners can use Keyscape as a library within its expansive structure. This enables you to see and control aspects of the sounds in more detail. However, you cannot deconstruct a Keyscape sound source, which is the multi-sampled element that represents the instrument itself. So you can't see the many layers, sample points, and other building blocks of the sounds.

But you can see the complete effects structure and access many more parameters for each of them. Here I could work with the effects send amounts when playing a Duo patch, and create my own dual-sound blends using the deep(er) selection of effects, the arpeggiator, and the Orb interface.

And why stop at only two: Omnisphere 2 lets you layer eight sounds in Stack Mode, and they can come from the immense palette that Keyscape offers. Keyscape's sound sources can be significantly warped using Omnisphere's vast array of filter types and modulation sources, and sound design tools such as Harmonia, Grain Shifting, Waveshaping, and... you get the picture.

ROLAND AIRA System-8

BY FRANCIS PREVE

SINCE I ADDED THE AIRA SYSTEM-1 TO MY RIG IN 2014, IT'S BECOME A WORK-horse for both remixes and film/TV work. In fact, I rely on the SH-101 Plug-Out more than I use my *real* one. Frankly, it's just more convenient and the Plug-Out sounds every bit as convincing in a mix. The core AIRA synth sounds fantastic, too. And the subtle mixer overdrive and convincing filter response give a presence that lets it go toe-to-toe with my analog collection.

Thanks to those qualities and the runaway success of the Boutique product line, it didn't take an oracle to see that Roland would eventually unveil a full-size version that offered polyphonic Plug-Out synths.

The System-8 is covered with knobs and faders and includes a huge X0X-style sequencer that's a breeze to program. As for synthesis tools, it has dual multimode oscillators, a noise generator, a sub-oscillator, extensive filtering, three envelopes, and an LFO. At the end of the chain are more sophisticated versions of the System-1 effects, including distortion, delay/chorus and reverb. An integrated vocoder and arpeggiator are also present.

As a virtual analog synth, these features alone would be impressive, but the System-8 has three memory slots for expanding the instrument with Plug-out soft synths. The first slot ships pre-loaded with a stunning Jupiter-8 emulation, first seen on the Boutique series (see Figure 1). A Juno-106 is in the works for 2017, as are compatible versions of the System-1 monophonic Plug-Outs. (The Juno-106 Plug-Out will be free for early adopters of the System-8.)

Oscillators

The System-8's oscillators, identical to those in the System-1, offer sawtooth, pulse and triangle waves in both traditional and "super" versions. The color knob modifies the standard waveforms, creating subtle variations on saw and triangle, as well as classic pulse-width functionality. On the "super" waves, it increases the detuning depth. Each oscillator's color parameter can be modulated by the LFO, envelopes, or oscillator 3 to create wild FM effects.

The Variation parameter provides easy access to additional waveforms introduced in the System-1 v1.2 update. These add options for FM, vowel and a one-shot based on the TR-808 cowbell. Additional functions include a white/pink noise generator, cross-mod (bi-directional FM), ring mod and hard sync.

Oscillator 3 can function as a sub-oscillator, and its sine and triangle waves can be modified using the color knob. It has a tuning range of ±1200 cents, making it useful for creating complexity when oscillator 3 is used as a modulation source.

Filters and Modulation

The filter offers keyboard tracking, velocity sensitivity, and a 4-stage envelope with bi-directional

Snap Judgment

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TIPS & TECHNIQUES

From the Pros

1 It's a balancing act

On your initial pass of a mix, try limiting all your decisions to level and panning. You'll find that your mix will come together much faster if you balance all the sounds before you reach for any plug-in or outboard gear. Also, where you put a sound in your stereo field will generally influence how you want to EQ or compress it—so definitely make that panning decision beforehand.

2 Try bussing - it'll get you around

Send related groups of audio to auxiliary tracks (commonly called busses, in this case). For instance, make busses for your drums, musical information, vocals, and effects. That way you can make subtle macro tweaks across a range of instruments, thereby getting the most out of EQ, dynamic, or harmonic-distortion decisions. If it's good enough for top mixers like Michael Brauer and Dave Pensado mix, then it's worth a try.

3 Working in a new space?

Listen to some of your favorite tracks in the room before you start working, to know how frequencies translate in that space, so you can adjust your workflow when you start tracking. This will help you create tracks and mixes that translate well when delivering to your client.

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modulation depth. And in addition to 2- and 4-pole resonant lowpass options (with a separate highpass cutoff as a nod to the Jupiter and Juno), you get a 3-pole mode for the lowpass and three resonant highpass modes with the same slopes. This extends the System-8's range of timbre options, even before you hit the variation knob that shifts it into "side-band" mode—terrific for pseudo-flanging effects and hard electro sounds.

The LFO is a powerhouse, thanks to its variation knob. In standard mode you get all the classic waveforms, with three bi-polar controls for pitch, filter and amp, as well as a switch for retriggering on every key event. You can also have the LFO trigger the envelopes for old-school pulsing effects.

However, the variation knob takes this LFO into innovative territory. Variation 2 creates a dual-LFO effect with the second LFO's rate set five octaves lower than the main one. The result is an LFO that speeds up and slows down in accordance with the selected waveform.

Variation 3 is a resonant pulse wave with a selectable resonant frequency. Imagine an alternating square wave, where each side of its cycle includes a rapid sine-wave flutter at the extremes. It's a sound you'd hear from a well-stocked modular rig and the inclusion here may provide a clue as to Roland's future intentions for the System-8 architecture.

Effects and Vocoder

While the original System-1 included a bit-crusher, delay and reverb at the end of its chain, the System-8's implementation is much more extensive, with separate modules for distortion (including a phaser option, interestingly), delay/chorus, and reverb.

The distortion section provides four types—from overdrive to fuzz—and includes a bit-crusher option. The delay/chorus has a lovely, watery ensemble *and* a nice emulation of Roland's JC-120-style chorus. The reverbs include a Dimension D inspired "Ambi" setting, some modulated spaces, and a lush plate.

Fig. 1: The Jupiter-8 Plug-Out synth is included in the System-8, with the Juno-106 available shortly.

Although the documentation doesn't specify the number of bands it has, my ears tell me the built-in vocoder is at least an eight-band model—possibly higher—because it's quite intelligible. Set up is easy and requires just a few button presses. Unfortunately, the mic input accepts only 1/4" plugs, rather than supporting XLR connectors, like you'll find on the new VP-03.

Although there aren't many front-panel control to tweak for the vocoder, I discovered a nifty formant-shifting parameter in the System menus, as well as a highpass tool for emphasizing consonants. All in all, the vocoder is a solid performer.

Arpeggiator and Sequencer

In ARIA mode, the options for the arpeggiator are not particularly extensive—up, down and up/down modes are available in either one- or two-octave flavors. As this is a Roland product, I was hoping for a random mode, as they basically pioneered this option on the Jupiter-4. So, while standard AIRA mode doesn't offer this, it *is* available in a Plug-Out synth, as we'll see in a moment.

Nonetheless, the System-8 sequencer is an absolute gem. If you've used any of the Boutique modules, you'll instantly be familiar with its X0X-style row of sixteen tabs that chase along as the sequence plays. But unlike the Boutiques, the System-8's front panel includes dedicated buttons for step record, real-time record, rests, ties and a some editing functions, making it almost *too* easy to whip up dance-floor-ready riffs.

It's also fantastic as a parameter modulation tool, especially for rhythmic step-sequences. Just hold down a step button and turn the desired knob. When you lift the key, the sequence advances to the next step and awaits new input. Within a few minutes, I created stepped-filter sequences worthy of Depeche Mode's first two albums.

Plug-Out

The System-8 has three plug-out slots for future expansion and comes stock with the Jupiter-8 installed. This is the same model as the Boutique JP-08 and sounds identical, but with eight voices instead of four. What's more, the Jupiter-8 Plug-Out's arpeggiator includes the random mode I mentioned earlier.

For my review of the Boutique synths last year, I took the units to Austin's Switched On Music vintage-synth shop and recorded head-to-head comparisons against the originals with stunning results. Having just completed a film/TV library of retro tracks that rely heavily on vintage gear and the Boutiques, I can attest that Roland's approach to modeling its iconic synths is an absolute success. The Jupiter-8 mode sounds 99% like an original, with the 1% difference attributed to subtle variations between each unit's aging process. Heck, even two Jupiters will sound slightly different from each other after 35 years. So, unless you want to live with the vague anxiety of inevitable repairs and maintenance, you'll probably be just as blown away as I was by the Plug-Out version.

Speaking of the nuances of aging gear, Roland added a Condition parameter, which you'll find within the System menu. Increasing its value adds subtle tuning and filter variations to each voice played, like you'd get from a true vintage synth. It may seem like a gimmick to some, but when it comes to nailing the idiosyncrasies of analog, it's an impressive detail.

At this time, the System-8 isn't compatible with the System-1 Plug-Outs. However, Roland plans to address this in 2017. Even so, having the Jupiter-8 included in the System-8 package out-of-the-box is an amazing value.

Performance

While the Boutiques and System-1 leaned more toward studio applications and DJ rigs, the System-8 is an absolute dream for live keyboardists. The velocity-sensitive action is standard for a synth of this type, with traditional full-size keys instead of the System-1's flattened action. As for real-time performance control, there are dedicated sliders for both pitch and filter depth on the old-school Roland horizontal paddle/bender.

Another feature that gigging players will love is split/dual keyboard mode. It could mean that you'll need one less synth on the road, considering that both layers and splits can access different Plug-Outs, arpeggiators, sequences, and vocoding. There's even an option to send CV/gate voltages from a specific keyboard range.

Over and Out

Offering a comprehensive feature set combined with impeccable re-creations of iconic analog gear, it's almost impossible to find any faults with the System-8 other than the lack of an XLR input for microphones. Overall, the synth is positively breathtaking as both a studio workhorse and a stage instrument. ♫

Bottom Line

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Snap Judgment

PROS Unmatched variety and quality of sample libraries and software synths. Fully compatible with Kontrol Series keyboards, Komplete Kontrol software, and Maschine products.

CONS Komplete 10 users who have separately updated Reaktor, or purchased other products that were not included in Komplete 10, may find version 11 doesn't offer as much value.

NATIVE INSTRUMENTS

Komplete 11 Ultimate

Keyboard K KEYBUY AWARD

BY JOHN KROGH

NATIVE INSTRUMENTS CLEARLY MAKES THE CASE THAT MORE *IS* MORE. THEIR Komplete bundle—now at version 11—is jam-packed with most of the products in the developer's catalog, which is massive and represents just about every sonic category you could imagine. For the price of admission you get access to a world of best-in-class instruments and effects that could keep your creative juices pumping for years.

New with Native Instruments Komplete version 11 is a low-cost entry point—Komplete 11 Select ($199), a slim-yet-capable collection of 11 products—that joins the standard Komplete 11 bundle (45 products, $599) and Komplete 11 Ultimate (87 products, $1,199), which is reviewed here. (Upgrade pricing from older versions is also available.) Although each of the three Komplete 11 editions can be downloaded, Select can be delivered on a USB flash drive, while the other two editions are available on a hard drive. Moreover, Komplete Kontrol keyboards and Maschine products ship with Komplete Select.

It would take an entire issue of *Keyboard* to cover everything included in Komplete 11 Ultimate, and even then we'd only scratch the surface. Instead, I'll focus on the new additions and updates in Komplete 11 Ultimate, and refer you to our review of Komplete 10 at keyboardmag.com.

High Koncept

For those of us who primarily play and produce music using a keyboard, Komplete 11 delivers just about every kind of sound we could possibly want or need. Convincing classic EPs, Hammond organ and Clavs? Check. Rich, deeply-sampled acoustic pianos? Double check (see Figure 1). Bleeding-edge, awe-inspiring synthesizers? Triple check (see Figure 2). You get the idea.

Komplete 11 is divided into four main categories—Engines, Synthesizers, Sampled Instruments, and Effects. Depending on the number of products in each category, there are logical subcategories such as Drum and Percussion, World Instruments and Cinematic within Sampled Instruments, for example.

Fig. 1: One of the newest pianos is Una Corda, a virtual instrument featuring one string per key and a host of fabric preparations that alter the overall timbre.

Form and Function

Komplete 10 introduced Kontour, a 2-oscillator synth that offers comb filtering, phase modulation and waveshaping, and Rounds, a virtual-analog/digital hybrid, performance-oriented instrument with multiple phrase sequencers that you can trigger in various ways. New in Komplete 11 is Form, a synth that runs inside Reaktor 6, as Kontour and Rounds do (see Figure 3). Form is a hybrid synthesizer that offers a fresh take on synthesis: It loads single samples as raw oscillators, then lets you scrub and move through user-defined sections within the sample while processing it using a range of DSP techniques. Samples can be up to 30 seconds in length, and with the onboard effects and modulation capabilities, it's possible to quickly transform ho-hum audio into spectacular leads, pads, basses and effects.

At Form's core is a Pitch Synchronous Overlap and Add (PSOLA) algorithm that can be used to create sounds with a granular character, although that's just one of many colors it can achieve. But unlike a granular synth, Form has no parameter for grain control. Instead, it features Motion Curves, which let you define a sample's playback direction and speed without affecting pitch. In addition, you can create multiple curves and apply them to different segments of the sample, loop the curves, and flip their direction, among other things, to produce complex results: Once I started digging into the Curve Editor I was hooked. The possibilities are endless.

There's also an additive oscillator that is designed to "fill in" the frequency spectrum. I found this worked nicely to compensate for audio that was too thin in certain frequency ranges.

To transform your sounds further, five effects are onboard, including reverb, delay, a waveshaper, and a 2-band frequency shaper that can create dramatic changes to a sound's tonal characteristics. And thankfully there's a global effect bypass, which can be a real help when A/B-ing as you program.

As with the other Reaktor-based synths, Form can be delicate, atmospheric, raw, rude, and everything in between. To my ears and eyes, the newer Reaktor-based synths tend to have similar characteristics: Sonically, they're hi-fi and have a freshness that is thrilling and thoroughly modern. This characteristic punch and polish is even more evident in Komplete 11, which boasts improvements to Reaktor's DSP.

Graphically, many of these synths have a spacious, high-tech look that invites exploration and makes them a joy to program. In contrast, I was struck by how small and fiddly Absynth's user interface feels relative to these other instruments. Ultimately, however, the collective synthesis capability in Komplete 11 Ultimate is staggering.

Making Kontakt

An important aspect of Kontakt 5.6 is the updated UI, which has a clean and consistent look with other newer NI instruments. While I appreciate the visual update, I'm disappointed that it's

Fig. 2: Reaktor Blocks has been added to Komplete 11's already impressive line-up of powerful synthesizers.

Fig. 3: Form's Sound page with two Motion Curves. The four freely-assignable macros along the bottom (Spectrum, Sound, Motion, FX) add to the real-time tweakability.

no longer possible to adjust the instrument's font size (it was adjustable in previous versions, and now it's too small when working at a distance), and that there's not an easier way to move libraries within the browser. You can drag libraries to change their order, but if you have more than a handful of collections, as many users do (especially Komplete 11 Ultimate owners), it can be tedious and time-consuming to organize your content. I'd love the ability to re-order libraries using a list window that allows drag-drop and copy-paste.

I also wish that it handled effects more flexibly. For example, effects that are accessible from an instrument's Performance view cannot be swapped out with different effects, nor can you easily add effects that aren't already built into the Performance view UI without opening the instrument's editor and digging in (and even then the effect parameters won't be added to the UI). I run into this workflow challenge frequently when using third-party instruments, most of which have custom interfaces that provide varying numbers and kinds of effects.

Criticisms aside, however, there's a lot to love. Combined with the dizzying array of NI and third-party sample libraries that are included with Komplete 11 Ultimate, Kontakt is a sonic juggernaut that's unmatched in quality and sheer breadth of sounds. From cinematic sound-design and driving percussion to otherworldly textures and expertly recorded acoustic instruments of all types, the sample content in this bundle is second to none.

Kontent

Five new Symphony Essentials titles, derived from NI's Symphony Series orchestral libraries, have been added to the already long list of Kontakt collections in Komplete 11 Ultimate. Woodwinds and brass are presented in solo and ensemble configurations, while strings are presented in sections only—violin 1 and 2, viola, cello and bass.

> If you make music with a computer, I can think of no better investment than this latest incarnation.

All of the titles were produced in partnership with heavyweight third-party developers known for their top-flight orchestral titles, and this expertise is evident in the quality of the samples and programmability of the Essentials instruments. Native Instruments claims Essentials are designed for "light scoring tasks" that require "fundamental instrumental performance techniques," which sells these libraries short. These are wonderfully dynamic and expressive instruments that I would happily put head-to-head with my other symphonic collections. While Essentials does lack the multiple microphone perspectives and certain articulations from the "parent" libraries, the brass, woodwinds and strings are capable of covering a lot of musical territory.

Each instrument features a generous interface with a single knob in the center, which controls volume and is tied to your controller's mod wheel by default. While I appreciate the look, feel and functionality, the knobs don't actually affect *velocity* layers, which would allow you to move through dynamics such as *piano*, *mezzo piano*, *mezzo forte*, *forte* and so on. This is a feature we've come to expect from sampled orchestras, and it's a missed opportunity with Essentials that I'm hoping can be addressed in a future update.

Still, considering that some third-party orchestral collections can cost as much as Komplete 11 Ultimate, the combination of Symphony Essentials and its orchestral siblings Emotive Strings, Action Strings and Session Strings Pro represents serious value and collectively covers a wide range of scoring needs with aplomb.

Konclusion

If you make music with a computer and you don't already own Komplete 11 Ultimate, I can think of no better investment than this latest incarnation. The bang-for-buck factor is undeniable, and so is the quality and breadth of the instruments and their presets.

Without diving into programming your own sounds, the sonic possibilities are seemingly infinite. And for those of us who prefer rolling our own, Komplete 11 Ultimate offers a wealth of incomparable synthesis horsepower. This collection goes to 11! ♫

Bottom Line

As the most comprehensive and impressive set of software instruments on the market, Komplete is an unbeatable champion.

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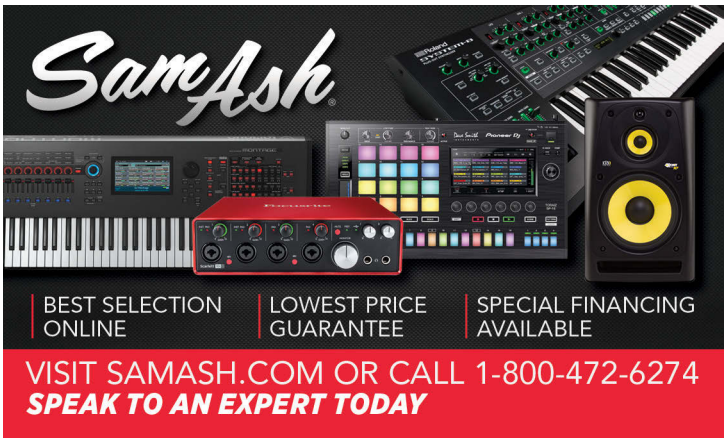

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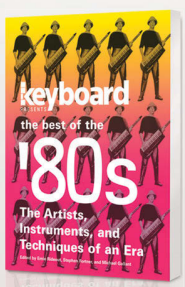

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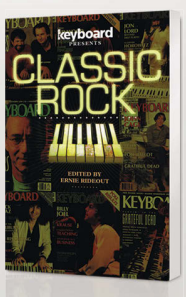

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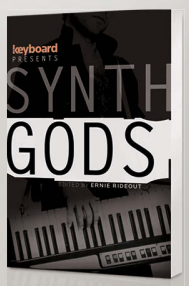

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SAM JONES

5 WAYS TO PLAY YOUR Hammond like a Heartbreaker!

BY BENMONT TENCH

Benmont Tench is a founding member of Tom Petty & The Heartbreakers, and plays with Mudcrutch and the Watkins Family Hour. A much sought-after session keyboardist and songwriter, Tench released his debut solo album *You Should Be So Lucky* on Blue Note Records in 2014. He lives in California with his wife, writer Alice Carbone Tench, and their three large and fierce (but lovable once they know you) attack dogs.

I NEVER WANTED TO BE A HAMMOND PLAYER. ROCK & ROLL, FROM THE beginning (I turned three in Elvis Presley's breakout year of 1956), was guitar and piano music to me—things like "Heartbreak Hotel," "Whole Lotta Shakin' Goin' On," and "Tutti Frutti." The other music that drew me in—from Beethoven and Chopin, to Berlin and Rodgers and Hart or Hammerstein—was most often heard on, or accompanied by, a piano, not an organ. Even when the British Invasion stirred it all up and kicked it back over to us in the States, keyboardists played mostly pianos or Vox organs, which were strange, reedy, and so great to just plain look at. Hammonds were rare and still sounded square and old-fashioned to me. I got a Farfisa, and then a Wurlitzer, and played through a Marshall stack.

Booker T. and Matthew Fisher (of Procol Harum) were the first Hammond players to make me sit up and take notice. They were pulling the drawbars and playing the instrument in ways that seemed vital, spirited, new, and haunting. Still, I balked at the sheer bulk of the thing. (How the heck do you even move something that big, and with a Leslie speaker to boot?) But when I finally got my hands on one in 1974—in a tiny upstairs, elevator-less recording studio in Los Angeles—a switch went off. And by the time the Heartbreakers made our first record and set out on our first tour, I had fallen in love with it and was starting to get my head around it. And I'm still getting my head around it.

I'm something of a slow study with my Hammond C-3, but I'm in no hurry: Discovery is one of the great joys of playing an instrument over a long period of time. Here are a couple of things I've figured out, which I hope will help some of you out.

1. Listen

To the rhythm, to the other players, and to the arrangement—the way it rises and falls. Above all, listen to the song, and the melody.

2. Think About Texture

You have a world of tone and texture at your fingertips. Tailor the drawbars and the register in which you play so that they speak in the right perspective. For example, is your sound too thick or too thin? Are you covering other instruments or voices with your octave or inversions? Change the drawbars between sections: Try moving them subtly as you play to swell or sneak around. And, for the same reasons, play with the amount of overdrive you get from the Leslie. Guitar players don't always use the same amp settings, so why should you? For example, during the "Refugee" and "The Waiting" period, I had a solid-state Bill Beer Leslie speaker that was very clean, whereas the *Mojo* album features a tube Leslie, frequently driven hard, either by turning it up or by using a stomp box in the effects loop.

3. You Don't Always Have to Play!

You can be just as effective by where you *don't* play. Choose where you enter and exit, and how you do it (e.g., abruptly or by fading in/out). Ask yourself, "What if I just waited? Does a more active or percussive part suit, or does it give the track too much rhythmic information?" And if you use the percussion tabs, which I prefer on the subtle side, make sure your time is really good! (I'm working on that, too.)

4. More Thoughts on Listening

Listen to the song and to the other players and ask yourself, "Will a simple riff enhance the song more or will pads be a better choice?" When moving with pads or playing a melody, do they conflict or distract from the vocal or another instrument that's important at that point in the song? (Listen to "Stop Draggin' My Heart Around.") Again, what if you just waited and didn't play here?

5. Leslie, Chorus, and Vibrato

A Leslie speaker is a wonderful thing, as is the chorus/vibrato wheel. But don't leave the Leslie on "fast" for too long. It's best used for transitions and emphasis. If your switch has a Stop option, experiment with it, as it can create a beautiful, humble effect. And you will have more places to go—Stop to Slow to Fast to Stop, etc. The subtle change in richness when going from Stop to Slow can really deepen the song at the right time.

And be careful with that chorus/vibrato wheel. It can be very effective when used to differentiate song sections, but one slip and you're in roller-rink land. (An interesting place to visit, but not my favorite hang!) A good example of Stop-switch and chorus-wheel work is the live version of The Heartbreakers playing "Don't Bring Me Down." ♫

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